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October 12, 2023

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Third Quarter 2023 – SVE System Update
Hare #14M
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NRM2028852747

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Third Quarter 2023 –SVE System Update* report summarizing the soil vapor extraction (SVE) system performance at the Hare #14M natural gas production well (Site), located in Unit D of Section 10 of Township 29 North, Range 10 West, San Juan County, New Mexico (Figure 1). The SVE system was put into operation on June 6, 2023, to remediate subsurface soil impacts resulting from approximately 36 barrels (bbls) of natural gas condensate released from an aboveground storage tank. This report summarizes Site activities performed in June, July, August, and September of 2023.

SVE SYSTEM SPECIFICATIONS

The SVE system at the Site consists of a 3-phase, 6 horsepower Atlantic Blower AB-802 regenerative blower capable of producing 399 cubic feet per minute (cfm) flow and 125 inches of water column (IWC) vacuum. The system is powered by a permanent power drop and is intended to run 24 hours per day. Seven SVE wells are currently in operation and are shown on Figures 2 and 3. SVE wells SVE01, SVE07, and SVE09 are screened within “shallow zone” soil at depths up to 25 feet below ground surface (bgs). SVE wells SVE02, SVE03, SVE06, and SVE08 are screened within “deep zone” soil at depths up to 40 feet bgs.

SYSTEM STARTUP AND THIRD QUARTER 2023 ACTIVITIES

The SVE system began operation on June 6, 2023. Based on the New Mexico Oil Conservation Division (NMOCD) Conditions of Approval (COAs), dated November 7, 2022, field data measurements were collected from the system daily for the first week of operation and then weekly thereafter for the remainder of June, July, August, and September 2023. Field measurements included the following parameters: total system flow, estimated flow rates from each SVE well, photoionization detector (PID) measurements of volatile organic compounds (VOCs) from each SVE well, vacuum measurements from each SVE well, and oxygen/carbon dioxide measurements via hand-held analyzers from each SVE well. Field notes taken during operations and maintenance (O&M) visits are presented in Appendix A.

Since startup, all Site SVE wells were operated in order to induce flow in impacted soil zones. Between June 6 and September 29, 2023, the SVE system operated for 2,763.9 hours for a runtime efficiency of 100 percent (%). Appendix B presents photographs of the runtime meter for calculating the third quarter 2023 runtime efficiency. Table 1 presents the SVE system operational hours and calculated percent runtime.

Based on the November 2022 COAs, initial air samples were collected on June 6 and June 7, 2023, from a sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler. Prior to collection, the emission sample was field screened with a PID for organic vapor monitoring (OVM). The emission sample was collected directly into two 1-Liter Tedlar® bags and submitted to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known as total petroleum hydrocarbons – gasoline range organics (TPH-GRO)) following United States Environmental Protection Agency (EPA) Method 8015D, volatile organic compounds (VOCs) following EPA Method 8260B, and fixed gas analysis of oxygen and carbon dioxide following Gas Processors Association (GPA) Method 2261. Subsequent samples were collected weekly for the first month of operation and then bi-weekly (twice per month) through the end of the third quarter of 2023. Tables 2 and 3 present a summary of field measurements and analytical data, respectively, collected between June and September 2023. Full laboratory analytical reports are attached as Appendix C. Graphs 1 and 2 present oxygen and carbon dioxide levels over time, respectively.

Air sample data and measured stack flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 4). Based on these estimates, 1,870 pounds (0.93 tons) of TVPH have been removed by the system to date. No phase-separated hydrocarbons were recovered from the system during the O&M and sampling period described above.

DISCUSSION AND RECOMMENDATIONS

As approved by the NMOCD (Appendix D), activities and data collected during the end of the second quarter and all of the third quarter of 2023 are summarized in this report. Flow measurements during the first quarter of operation were estimated for each SVE well based on the total system flow. In order to measure flow at each individual well, Hilcorp and Ensolum will install flow gauges in the fourth quarter of 2023 for future measurements. Additionally, flow readings collected from the system's inline rotameter and flows calculated from the differential pressure readings collected from the system pitot tube and magnehelic gauge were found to be consistently different throughout O&M visits performed at the Site. Ensolum has been working to troubleshoot the discrepancy and determine the most accurate method for collecting system flow measurements. To be conservative, Ensolum used the lower flow rates for calculating system mass recovery. The fourth quarter 2023 report will present further details regarding this effort and corrected mass recovery calculations, if necessary.

Monthly O&M visits and bi-monthly (every other month) sampling events will continue to be performed by Ensolum and/or Hilcorp personnel to ensure the SVE system is operating within normal working ranges (i.e., temperature, pressure, and vacuum). Deviations from regular operations will be noted on field logs and included in the following quarterly report.

We appreciate the opportunity to provide this report to the NMOCD. If you should have any questions or comments regarding this report, please contact the undersigned.

Sincerely,

Ensolum, LLC

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Attachments:

Figure 1	Site Location Map
Figure 2	SVE System Shallow Zone Wells
Figure 3	SVE System Deep Zone Wells
Table 1	Soil Vapor Extraction System Runtime Calculations
Table 2	Soil Vapor Extraction System Field Measurements
Table 3	Soil Vapor Extraction System Air Analytical Results
Table 4	Soil Vapor Extraction System Mass Removal and Emissions
Graph 1	Oxygen vs Time
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Appendix A	Field Notes
Appendix B	Project Photographs
Appendix C	Laboratory Analytical Reports
Appendix D	NMOCD Correspondence

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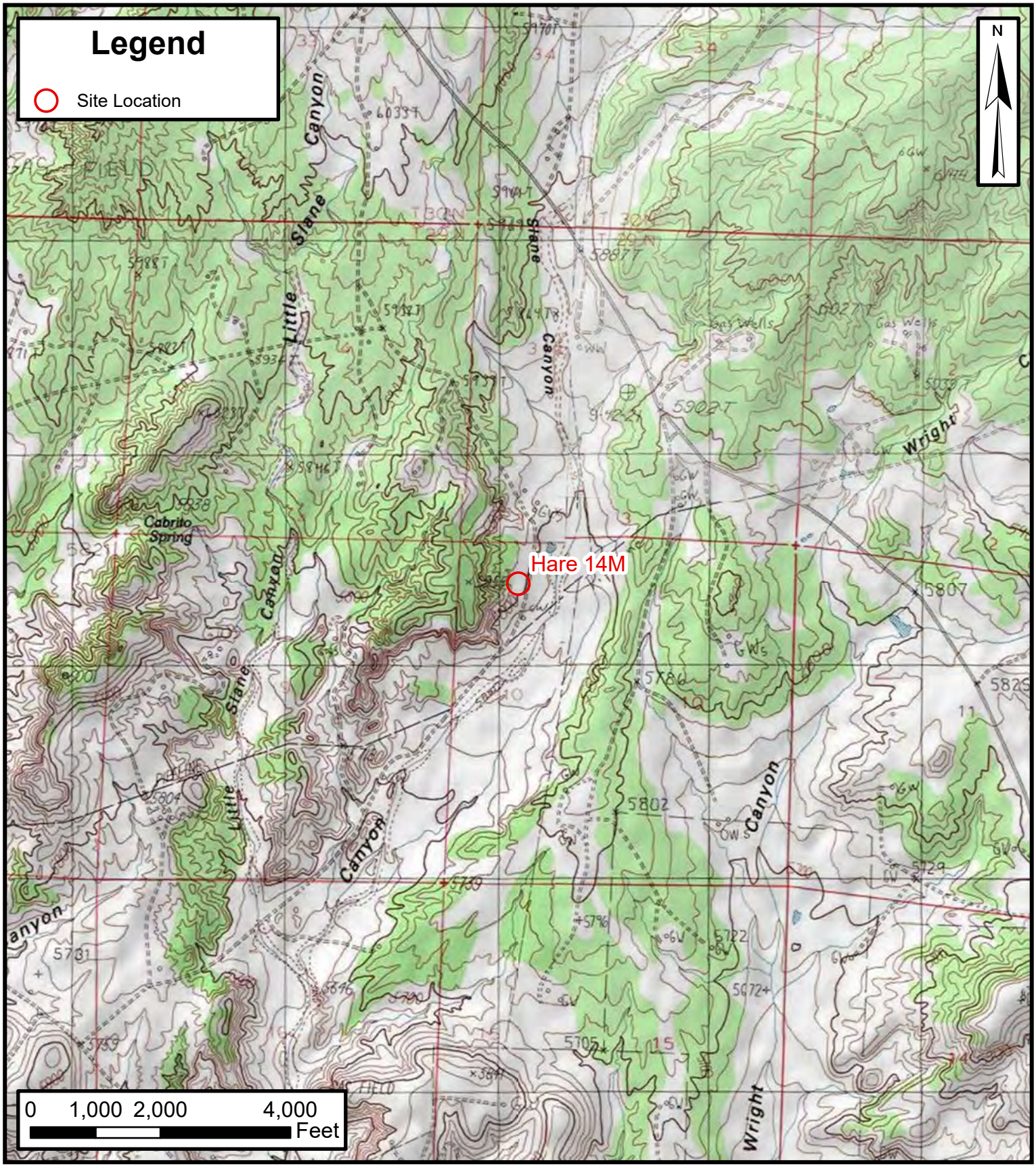
FIGURES



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Site Location Map

Hare #14M
Hilcorp Energy Company
36.7746141, -107.878021
San Juan County, New Mexico

FIGURE
1

Sources: Environmental Systems Research Institute (ESRI), National Geographic Society, i-cubed

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SVE System Shallow Zone Wells

Hare #14M
Hilcorp Energy Company
36.7746141, -107.878021
San Juan County, New Mexico

FIGURE
2

Sources: Environmental Systems Research Institute (ESRI), Google Earth

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SVE System Deep Zone Wells

Hare #14M
Hilcorp Energy Company
36.7746141, -107.878021
San Juan County, New Mexico

FIGURE
3

Sources: Environmental Systems Research Institute (ESRI), Google Earth

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TABLES AND GRAPHS

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TABLE 1
SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
Hare #14M
Hilcorp Energy Company
San Juan County, New Mexico

Date	Total Operational Hours	Delta Hours	Days	Percent Runtime
6/6/2023	292	Startup		
9/29/2023	3,056	2,763.9	115.0	100%

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TABLE 2
SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS
Hare #14M
Hilcorp Energy Company
San Juan County, New Mexico

SVE Well ID	Date	PID (ppm)	Flow Rate (cfm)(1)	Vacuum (IWC)	Oxygen (%)	Carbon Dioxide (%)
Influent, All Wells	6/6/2023	1,769	--	--	--	--
	6/7/2023	1,367	70	78	--	--
	6/13/2023	1,023	35	44	--	--
	6/23/2023	675	40	40	--	--
	6/29/2023	781	40	40	--	--
	7/13/2023	745	42	37	--	--
	7/27/2023	414	45	36	--	--
	8/9/2023	403	48	34	--	--
	8/24/2023	610	46	37	--	--
	9/8/2023	444	48	36	--	--
	9/21/2023	398	46	36	--	--
SVE01	6/6/2023	1,620	--	--	--	--
	6/7/2023	1,983	10	61.9	20.9	2.28
	6/13/2023	1,520	5.0	29.3	22.9	0.48
	6/23/2023	1,245	5.7	23.9	23.2	0.26
	6/29/2023	1,441	5.7	24.2	23.2	0.24
	7/13/2023	1,585	6.0	--	22.9	0.26
	7/27/2023	1,292	6.4	20.8	22.5	0.24
	8/9/2023	923	6.9	18.8	22.8	0.18
	8/24/2023	982	6.6	21.2	22.1	0.12
	9/8/2023	763	6.9	--	22.0	0.14
	9/21/2023	435	6.6	20.7	21.4	0.08
SVE02	6/6/2023	738	--	--	--	--
	6/7/2023	195	10	63.3	23.2	0.04
	6/13/2023	281	5.0	30.2	23.3	0.04
	6/23/2023	98.0	5.7	24.7	23.4	0.06
	6/29/2023	120	5.7	24.7	23.4	0.00
	7/13/2023	109	6.0	--	23.3	0.00
	7/27/2023	265	6.4	21.2	22.6	0.02
	8/9/2023	368	6.9	19.7	22.9	0.04
	8/24/2023	248	6.6	21.8	22.2	0.02
	9/8/2023	89.6	6.9	--	22.2	0.02
	9/21/2023	135	6.6	21.1	21.7	0.04
SVE03	6/6/2023	1,030	--	--	--	--
	6/7/2023	130	10	61.8	23.2	0.00
	6/13/2023	35.0	5.0	30.4	23.4	0.00
	6/23/2023	15.0	5.7	25.6	23.2	0.04
	6/29/2023	29.0	5.7	25.1	22.8	0.00
	7/13/2023	56.5	6.0	--	23.3	0.00
	7/27/2023	59.5	6.4	20.0	22.5	0.02
	8/9/2023	171	6.9	17.8	23.0	0.04
	8/24/2023	108	6.6	21.2	21.9	0.18
	9/8/2023	65.2	6.9	--	22.3	0.11
	9/21/2023	64.0	6.6	19.5	21.4	0.02

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TABLE 2
SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS
Hare #14M
Hilcorp Energy Company
San Juan County, New Mexico

SVE Well ID	Date	PID (ppm)	Flow Rate (cfm)(1)	Vacuum (IWC)	Oxygen (%)	Carbon Dioxide (%)
SVE06	6/6/2023	967	--	--	--	--
	6/7/2023	1,120	10	62.3	21.4	2.81
	6/13/2023	814	5.0	30.8	22.9	0.56
	6/23/2023	15.0	5.7	26.3	23.2	0.06
	6/29/2023	23.0	5.7	25.4	23.0	0.00
	7/13/2023	14.2	6.0	--	23.3	0.00
	7/27/2023	174	6.4	20.8	22.5	0.04
	8/9/2023	227	6.9	19.5	23.0	0.10
	8/24/2023	216	6.6	21.5	22.2	0.04
	9/8/2023	178	6.9	--	22.3	0.06
	9/21/2023	180	6.6	21.7	21.7	0.00
SVE07	6/6/2023	617	--	--	--	--
	6/7/2023	967	10	61.7	21.1	2.12
	6/13/2023	786	5.0	30.2	22.8	0.52
	6/23/2023	575	5.7	24.9	22.9	0.24
	6/29/2023	649	5.7	24.6	22.8	0.28
	7/13/2023	605	6.0	--	23.2	0.20
	7/27/2023	582	6.4	19.9	22.4	0.24
	8/9/2023	420	6.9	19.3	22.8	0.24
	8/24/2023	195	6.6	20.8	22.1	0.04
	9/8/2023	439	6.9	--	22.3	0.04
	9/21/2023	335	6.6	21.5	21.2	0.12
SVE08	6/6/2023	1,065	--	--	--	--
	6/7/2023	1,168	10	61.8	22.2	1.04
	6/13/2023	102	5.0	28.6	23.2	0.00
	6/23/2023	55.0	5.7	25.4	23.0	0.06
	6/29/2023	68.0	5.7	25.7	22.9	0.00
	7/13/2023	58.5	6.0	--	23.3	0.00
	7/27/2023	44.5	6.4	20.5	22.5	0.04
	8/9/2023	144	6.9	19.0	23.0	0.04
	8/24/2023	112	6.6	21.6	22.1	0.06
	9/8/2023	75.7	6.9	--	22.4	0.02
	9/21/2023	91.0	6.6	20.1	21.7	0.04
SVE09	6/6/2023	1,518	--	--	--	--
	6/7/2023	545	10	60.3	22.6	0.78
	6/13/2023	242	5.0	27.2	22.9	0.52
	6/23/2023	165	5.7	24.1	22.9	0.08
	6/29/2023	425	5.7	23.8	22.6	0.30
	7/13/2023	42.5	6.0	--	23.3	0.00
	7/27/2023	277	6.4	19.3	22.4	0.18
	8/9/2023	226	6.9	18.2	23.0	0.12
	8/24/2023	250	6.6	20.9	22.1	0.10
	9/8/2023	41.0	6.9	--	22.4	0.02
	9/21/2023	62.0	6.6	19.2	21.7	0.04

Notes:

(1): flow rates estimated based on total flow for field measurements collected between 6/6/2023 and 9/21/2023
IWC: inches of water column
PID: photoionization detector
ppm: parts per million
cfm: cubic feet per minute
%: percent
--: not measured

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TABLE 3
SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS
Hare #14M
Hilcorp Energy Company
San Juan County, New Mexico

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH/GRO (µg/L)	Oxygen (%)	Carbon Dioxide (%)
6/6/2023	1,769	84	480	25	270	31,000	15.34	3.53
6/7/2023	1,367	43	280	17	200	14,000	21.26	1.14
6/13/2023	1,023	27	220	14	160	11,000	21.47	0.63
6/23/2023	675	2.7	41	3.9	50	3,400	21.59	0.38
6/29/2023	781	8.8	150	13	160	5,000	21.63	0.31
7/13/2023	745	<5.0	120	11	140	4,500	21.64	0.28
7/27/2023	414	<5.0	62	5.7	73	2,700	21.70	0.22
8/9/2023	403	<5.0	55	5.5	69	2,600	21.73	0.23
8/24/2023	610	<5.0	53	7.5	99	2,700	21.66	0.24
9/8/2023	444	<5.0	37	5.6	74	2,100	21.72	0.20
9/21/2023	398	<5.0	39	6.6	96	2,300	21.75	0.18

Notes:

GRO: gasoline range organics

µg/L: microgram per liter

PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

%: percent

<: result less than the stated laboratory reporting limit (RL)

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TABLE 4
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
Hare #14M
Hilcorp Energy Company
San Juan County, New Mexico

Flow and Laboratory Analysis

Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH (µg/L)
6/6/2023	1,769	84	480	25	270	31,000
6/7/2023	1,367	43	280	17	200	14,000
6/13/2023	1,023	27	220	14	160	11,000
6/23/2023	675	2.7	41	3.9	50	3,400
6/29/2023	781	8.8	150	13	160	5,000
7/13/2023	745	*5.0*	120	11	140	4,500
7/27/2023	414	*5.0*	62	5.7	73	2,700
8/9/2023	403	*5.0*	55	5.5	69	2,600
8/24/2023	610	*5.0*	53	7.5	99	2,700
9/8/2023	444	*5.0*	37	5.6	74	2,100
9/21/2023	398	*5.0*	39	6.6	96	2,300
Average	784	18	140	10	126	7,391

Vapor Extraction Summary

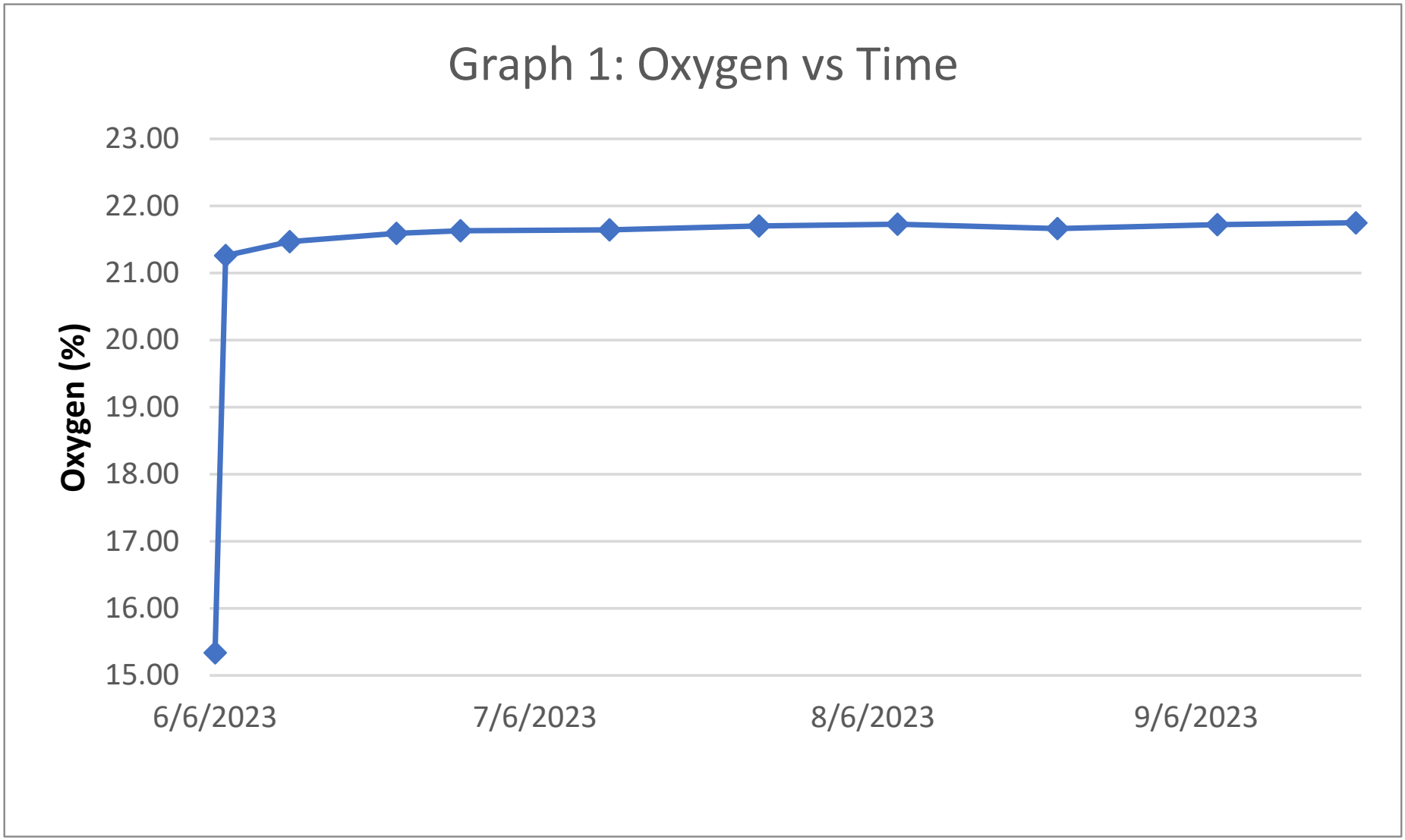
Date	Flow Rate (cfm)	Total System Flow (cf)	Delta Flow (cf)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Total Xylenes (lb/hr)	TVPH (lb/hr)
6/6/2023	--	System Startup						
6/7/2023	70	117,180	117,180	0.017	0.099	0.0055	0.062	5.9
6/13/2023	35	412,440	295,260	0.0069	0.049	0.0030	0.035	2.5
6/23/2023	40	987,720	575,280	0.0021	0.018	0.0013	0.015	1.0
6/29/2023	40	1,336,440	348,720	0.00086	0.014	0.0013	0.016	0.63
7/13/2023	42	2,187,948	851,508	0.0011	0.021	0.0018	0.023	0.73
7/27/2023	45	3,087,588	899,640	0.00081	0.015	0.0014	0.017	0.59
8/9/2023	48	3,992,484	904,896	0.00087	0.010	0.0010	0.012	0.46
8/24/2023	46	4,912,116	919,632	0.00088	0.0095	0.0011	0.015	0.47
9/8/2023	48	5,817,012	904,896	0.00088	0.0079	0.0012	0.015	0.42
9/21/2023	46	6,685,032	868,020	0.00088	0.0067	0.0011	0.015	0.39
			Average	0.0032	0.025	0.0019	0.022	1.3

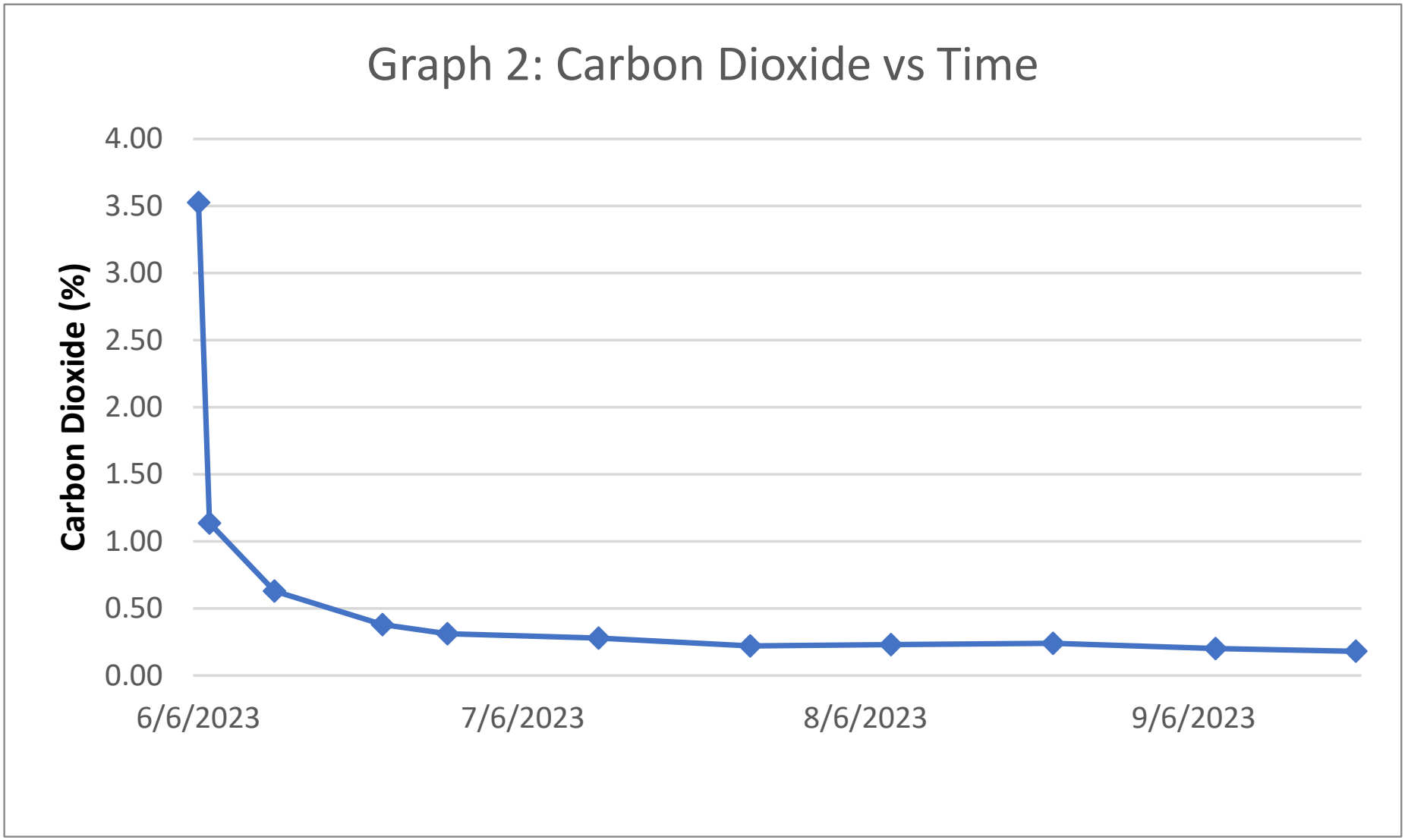
Flow and Laboratory Analysis

Date	Total Operational Hours	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
6/6/2023	292	System Startup						
6/7/2023	319	28	0.464	2.78	0.153	1.7	164	0.082
6/13/2023	460	141	0.966	6.90	0.43	5.0	345	0.173
6/23/2023	700	240	0.499	4.39	0.301	3.53	242	0.121
6/29/2023	845	145	0.125	2.08	0.184	2.28	91	0.046
7/13/2023	1,183	338	0.36	7.0	0.622	7.77	246	0.123
7/27/2023	1,516	333	0.27	4.9	0.45	5.8	195	0.098
8/9/2023	1,830	314	0.27	3.2	0.31	3.9	145	0.072
8/24/2023	2,191	361	0.317	3.4	0.41	5.3	168	0.084
9/8/2023	2,549	358	0.315	2.8	0.41	5.4	151	0.076
9/21/2023	2,864	315	0.276	2.1	0.34	4.7	122	0.061
		Total Mass Recovery to Date	3.9	40	3.6	45	1,870	0.93

Notes:

cf: cubic feet
cfm: cubic feet per minute
µg/L: micrograms per liter
lb/hr: pounds per hour
--: not sampled
PID: photoionization detector
ppm: parts per million
TVPH: total volatile petroleum hydrocarbons
gray: laboratory reporting limit used for calculating emissions


Graph 1: Oxygen vs Time
Oxygen (%)
23.00
22.00
21.00
20.00
19.00
18.00
17.00
16.00
15.00
6/6/2023
7/6/2023
8/6/2023
9/6/2023


Graph 2: Carbon Dioxide vs Time
Carbon Dioxide (%)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
6/6/2023
7/6/2023
8/6/2023
9/6/2023

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APPENDIX A

Field Notes

Location Hare 14M Date 6-6-23

Project / Client HEC

DB Truck/tools, HVAS, PID, Tedlars.

1130 - Onsite to start SVE system.

Calibrate PID w/ 100 ppm isobutylene

Calibrate 6-gas meter.

	Headspace PID, no SVE active
SVE 01	1,620 ppm
02	738
03	1,030
06	967
07	617
08	1,065
09	1,518

Start SVE @ 12:00

Hrs meter reads 291.5

- Connected to VFD, which should always have power. So will need to reconnect to only show when blower is on.

1220 - Collect influent air sample - All wells on.

"Influent All Wells"

PID - 1,769 ppm

116

Location Pure 14M

Date 6-7-23

Project / Client HEC

Cloudy, 70-80s

DB Truck/tools, PID, 6-gas, HVAS

1445- Onsite for SVE startup/O+M

- System running upon arrival

SVE System Rotameter Flow - 70 SCFM

Vac gauge - 78 IWC

Diff. Press. - 4.2 IWC

No liquids in KO Tank sight tube

Location	(VAC) CH_4	Oxy	H_2S	CO	CO_2	PID
~~SVE 01~~	~~10~~	~~21.4~~	~~0~~	~~0~~	~~2.18~~	~~1,120~~
02 63.3	1	23.2	0	0	0.04	195
03 61.8	0	23.2	0	0	0	130
06 62.3	10	21.4	0	0	2.81	1,120
07 61.7	6	21.1	0	0	2.12	967
08 61.8	9	22.2	0	0	1.04	1,168
09 60.3	2	22.6	0	0	0.78	545
Inlet	9	21.2	0	0	2.22	1,386
Exh.	9	21.2	0	0	2.20	1,470
SVE01 61.9	17	20.9	0	0	2.28	1,983
	%	vol %	ppm	ppm	~~ppm~~ vol %	ppm

1540- "Influent All Wells" air sample collected.

Hrs - 319.4 PID - 1,367 ppm

1600 - Offsite

118 Location Hare 14M Date 6-8-23

Project / Client HEC Sunny, 80s

DB/ZM Truck/Tools, H/VAS, PID, 6-Gas

1320 - Onsite for SVE OfM/Startup

System running upon arrival, all wells active

SVE operating conditions

Rotameter Flow 70 SCFM

Vac gauge 66 1WC

Diff. Pressure 4.4 1WC

no liquid in sight tube

runtime: 342.2 hrs @ 14:30

Well	Vac	CH_4	Oxy	H_2S	CO	CO_2	PID
SVE 01	33.1	11	22.2	0	0	0.88	1,580
02	34.7	1	22.8	0	0	0.14	240
03	34.2	0	22.8	0	0	0.04	220
06	34.7	1	23.2	0	0	0.20	245
07	33.3	6	22.1	0	0	1.42	1015
08	34.8	12	22.2	0	0	0.98	390
09	33.4	3	22.6	0	0	0.76	565
inlet	58	8	22.2	0	0	1.26	1155
exhaust		8	22.1	0	0	1.18	1145
	1WC	LEL	Vol %	ppm	ppm	Vol %	ppm

14:30 leaving site

Location Hare 14M Date 6-9-23

Project / Client HEC Sunny, Breezy 80s

DB Truck/Tools, HVAS, PID, 6-Gas

1330 - Onsite for SVE O&M, start up week Review HASP. JSA.

System running upon arrival. All wells active. Skid has some low frequency vibration/sound. It goes away when weight is applied to center of skid pallet/plate. Vacuum relief valve is also open, letting in fresh air and lowering overall vacuum.

	Vac	CH_4	Oxy	H_2S	CO	CO_2	PID
SVE 01	33.2	12	22.5	0	0	0.80	1,663
02	33.8	4	22.8	0	0	0.36	472
03	33.4	0	23.8	0	0	0	44
06	33.4	0	23.3	0	0	0	58
07	32.8	4	22.6	0	0	0.72	759
08	33.5	0	23.3	0	0	0	232
09	32.5	4	22.8	0	0	0.84	725
Inlet		7	22.5	0	0	0.92	1,006
Exhaust		4	22.8	0	0	0.48	762
	iwc	%	vol%	ppm	ppm	vol%	ppm

Rotameter flow — 35 SCFM @1445

vac gauge — 45 iwc Runtime

Dif. Press. — 2.3 iwc HRS — 366.4

[illegible] tank

1500 - Offsite

DB

123

Location - Hare 14M Date 6-~~13~~-23
13

Project / Client HEC

DB O+M stuff.

~~1500~~ 1100 - Onsite for O+M

System running upon arrival. All wells on.

SVE Conditions

Rotameter — 35 scfm

Vac Gauge — 44 iwc

Diff. Press. — 2.4 iwc

No liquids in KO Tank

Runtime @ ~~15:05 - 438.9~~ Hrs
12:15 - 460.0 Hrs

	Vac	CH_4	Oxy	H_2S	CO	CO_2	PID
SVE01	29.3	8	22.9	0	0	0.48	1,520
02	30.2	1	23.3	0	0	0.04	281
03	30.4	0	23.4	0	0	0	35
06	30.8	4	22.9	0	0	0.56	814
07	30.2	4	22.8	0	0	0.52	786
08	28.6	0	23.2	0	0	0	102
09	27.2	2	22.9	0	0	0.52	242
In	—	6	22.8	0	0	0.62	1,023
Out	—	3	23.0	0	0	0.34	~~661~~ 661

1300 - "Influent All Wells" air sample collected
PID - 1,023

Location Hare 14 Date 6-23 133

Project / Client HEC

2M, truck, 4gas, 6gas, PID, sample kit hot, clear, 90s

11:00 onsite for O+M, gas sampling
- System running, all valves open
- VAC relief valve open
- PID calibrated, JSA signed

SVE system conditions: Rotameter 40scfm; Vac Gauge 40 |WC; Diff press 2.8 |WC; No liquids in KO tank; Runtime @ 11:30 → 699.7 hrs

	Vac	WC	LEL %LEL	O2 Vol%	H2S ppm	CO ppm	CO2 Vol%	PID ppm
SVE 01	23.9	7	23.2	0	0	0.26	1,245
02	24.7	1	23.4	0	0	0.06	98
03	25.6	0	23.2	0	0	0.04	15
06	26.3	0	23.2	0	0	0.06	15
07	24.9	3	22.9	0	0	0.24	575
08	25.4	0	23.0	0	0	0.06	55
09	24.1	1	22.9	0	0	0.08	165
Inlet		5	22.6	0	0	0.34	675
Outlet		3	22.9	0	0	0.20	515

12:30 2x Tedlar bag gas samples - Inlet PID 675 ppm

12:45 leaving site

2M

134 Location Hare 14M Date 6-29-23

Project / Client HEC Partly cloudy, hot, 90s.

DB Truck/tools, HVAS, PID, 6-gas, air sample

1100-Onsite for O&M. Review HASP, sign JSA.
- System running upon arrival.
- All wells open. KO tank empty.
- Vac relief valve active, making noise.
- Skid is vibrating and humming btwn. blower & KO tank.
- Calibrate PID w/ 100 ppm isobutylene

SVE	Rotameter	— 40 SCFM
System parameters	Vac Gauge	— 40 IWC
	Diff. Press	— 2.8 IWC

SVE	Vac	CH_4	Ox	H_2S	CO	CO_2	PID
01	24.2	4	23.2	0	0	0.24	1,441
02	24.7	0	23.4	0	0	0	120
03	25.1	0	22.8	0	0	0	29
06	25.4	0	23.0	0	0	0	23
07	24.6	2	22.8	0	0	0.28	649
08	25.7	0	22.9	0	0	0	68
09	23.8	2	22.6	0	0	0.30	425
Inlet		3	22.5	0	0	0.30	767
Outlet		2	22.6	0	0	0.20	655
Sample		4	22.5	0	0	0.32	781

PID

1230 - Influent All Wells" air sample collected

1240 - Runtime 845.0

Location HARE 14 M Date 7/6/23 137

Project / Client Hilcorp

RH, Trench, PID, HVAS, Eagle, 4-gas

10:47 - RH on Site for O+M

- System running on arrival, all wells open
- K/O Tank empty
- Calibrate PID w/ 100 PPM Isobutylene

Rotometer = 42
Vac = 38
Diff. Pressure = 2.9
Run time = 1011.5

SVE	Vac	CH_4	Ox	H_2S	CO	CO_2	PID
01	24.3	~~0~~ 4	22.9	0	0	0.24	1,477
02	24.8	0	23.0	0	0	0.06	48
03	24.1	0	23.0	0	0	0.02	33
06	24.3	0	23.0	0	0	0.08	198
07	23.9	2	22.9	0	0	0.26	653
08	24.2	0	23.0	0	0	0.06	12.0
09	22.8	1	22.9	0	0	0.26	428
Inlet	—	3	22.9	0	0	0.28	651
Outlet	—	2	23.0	0	0	0.16	530

12:00 RH off site

RH

Rite in the Rain.

134

Location Hare 14 Date 7/13/23

Project / Client HEC

ZM, truck, 4-gas, vac sampler, PID 100° sunny

Onsite at 13:50 for weekly OM&M, sampling

System running, all valves open

- Operating parameters
  - 42 scfm
  - 37 in WC
  - 2.8 diff psis

no fluids in KO tank

11829 hours at 14:05

SVE	CH_4	O_2	H_2S/CO	CO_2	PID
01	7	22.9	0 0	0.26	1585
02	0	23.3	0 0	0.00	108.5
03	0	23.3	0 0	0.00	56.5
06	0	23.3	0 0	0.00	14.2
07	2	23.2	0 0	0.20	605
08	0	23.3	0 0	0.00	58.5
09	0	23.3	0 0	0.00	42.5
Inflent	3	23.0	6 0	0.30	745
Exhaust	1	23.2	0 0	0.16	435
	% LEL	Vol %	ppm/ppm	Vol %	ppm

3x bullet holes observed in separator, 1x new hole in condensate tank 67" from bottom, PM informed

2x tedlar bag gas samples at 14:45

"Hare #14 PM Influent"

leaving at 15:10

Location Hare 14WI Date 7-18-23 137

Project / Client HEC

truck, 4-gas, PID, vac sample 95° sunny

12:40 ZM + SW on site for O+M & SVE JSA signed

Operating Parameters - system running
all valves open
scfm 48
WC 36
diff pres 2.8

no fluids in KO tank
1301.8 hours at 12:50

SVE	Press	CH_4	O_2	H_2S	CO	CO_2	PID
01	21.0	5	23.4	0.0	0	0.24	1160
02	22.0	0	23.8	0.0	0	0.00	130.5
03	18.5	0	23.7	0.0	0	0.26	455.2
06	21.3	0	23.9	0.0	0	0.00	76.7
07	21.4	0	24.0	0.0	0	0.04	50.1
08	20.8	0	24.0	0.0	0	0.02	50.5
09	19.7	0	24.0	0.0	0	0.02	38.5
Inlet		2	23.8	0.0	0	0.24	478.6
Exhaust		1	23.9	0.0	0	0.16	413.5
	WC	%LEL	Vol%	ppm	ppm	Vol%	ppm

* 03 & 07 got switched accidentally, except for pressure

13:37 leaving for office

ZM

Rite in the Rain.

Location Hare 14M Date 7/27/23

Project / Client Hilcorp

truck, PID, vac pump, sample kit, 4-gas 86°

10:15 onsite for O+M and sampling
HASP reviewed, JSA signed, PID calibrated
System running, all valves open
rotameter: 45 scfm diff pres: 3.0 in WC
Vac: 36 in WC hours 1,516.1 @ 10:30
no liquids in KO tank

SVE	Vac	CH_4	O_2	H_2S	CO	CO_2	PID
01	20.8	6	22.5	0.0	0	0.24	1292
02	21.2	0	22.6	0.0	0	0.02	265
03	20.0	0	22.5	0.0	0	0.02	59.5
06	20.8	0	22.5	0.0	0	0.04	173.5
07	19.9	2	22.4	0.0	0	0.24	582.4
08	20.5	0	22.5	0.0	0	0.04	44.5
09	19.3	1	22.4	0.0	0	0.18	276.5
in	–	2	22.4	0.0	0	0.16	413.8
out	–	2	22.5	0.0	0	0.12	389.2
	inWC	%LEL	Vol%	ppm	ppm	Vol%	ppm

2x Tedlar bag gas samples "Hare 14M Influent"
- PID 413.8 ppm @ 11:35

11:45 leaving site

Rite in the Rain

144

Location Hare 14M Date 8/3/23

Project / Client Hilcorp

RLH, Truck, PID, HVAS, Eagle, 4-gas

87°, Sunny

1250 - RLH on Site for OTM

- System running on arrival
- all wells open
- elbow @ exhaust broken
- Hours: 1686.4

Flow: 45 SCFM, Vac: 35" WC, Diff: 3 in H_2O

SVE	Vac	CH_4	O_2	H_2S	CO	CO_2	PID
01	19.9	2	23.0	0	0	0.18	863
02	20.1	0	23.3	0	0	0.02	164
03	19.6	0	23.3	0	0	0.04	100
~~05~~							
06	21.0	0	23.4	0	0	0.08	124
07	20.3	1	23.2	0	0	0.22	360
08	20.3	0	23.4	0	0	0.04	75
09	19.2	0	23.3	0	0	0.16	195
IN	—	1	23.3	0	0	0.20	353
OUT	—	1	23.3	0	0	0.14	456
	in WC	% LEL	Vol %	ppm	ppm	Vol %	ppm

Vaccum relief valve stuck open

Close SVE 08, 01, 03

Location Hare 14 M
Date 8/3/23

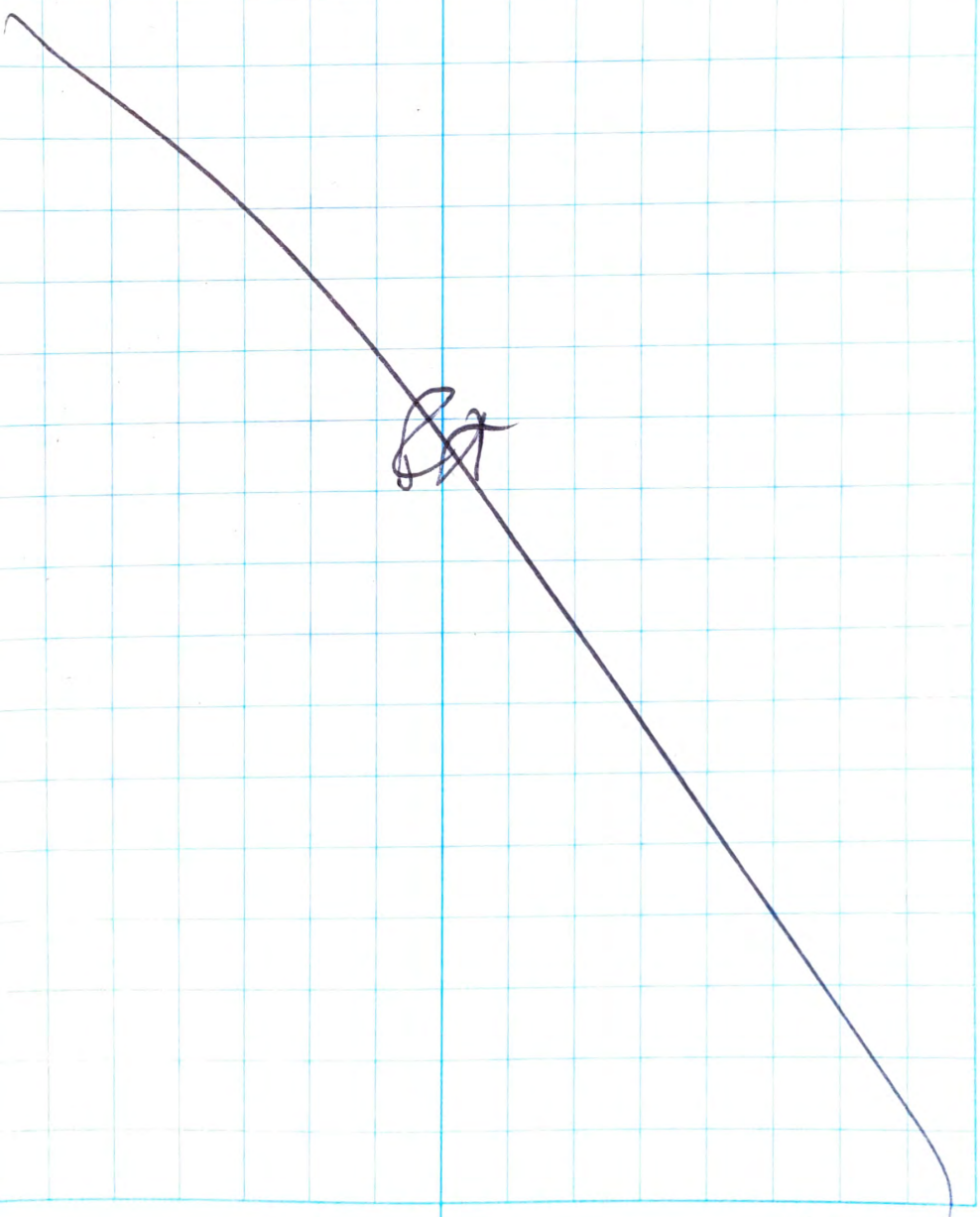
Project / Client Hilcorp

→ cont

V_{ac} = 38" WC, Flow = 40 SCFM, Diff = 2.7

- open SVE 03, 06, 08
- All wells open

1425 RH off site



Rite in the Rain

Hare 14 M 8/9/23 Hilcorp

RH, Truck/Tools, HVAS, PID, Eagle, 4-gas, Sample Kit

12:35 - RH on Site for O+M + bi-weekly sampling
- System Running on arrival
Inlet Manifold:
Flow = 48 SCFM, Vac = 34" WC, Diff = 3 in H_2O
Hours @ 12:54 = 18330.3

SVE	Vac	CH_4	O_2	H_2S	CO	CO_2	PID
01	18.8	2	22.8	0	0	0.18	923
02	19.7	1	22.9	0	0	0.04	368
03	17.8	0	23.0	0	0	0.04	171
06	19.5	0	23.0	0	0	0.10	227
07	19.3	1	22.8	0	0	0.24	420
08	19.0	0	23.0	0	0	0.04	144
09	18.2	0	23.0	0	0	0.12	226
Influent	—	1	22.9	0	0	0.20	403
~~Exhaust~~							

Sample "Influent" @ 13:20
- SK shut off system to repair exhaust
- repaired, reinforced w/ additional T-post + hose clamps

1430 - RH off site

RH

8 Hare 14M 8/17/23 H.Kemp

RH, Truck/tools, PID, HVAS, Eagle, 4-gas

95° F Sunny

13:30 - RH on Site for O+M

- System running on arrival

Inlet Manifold:

Vac = 36 "WC Flow = 45 scfm Diff = 3.0 inH_2O

Hours @ 13:42 = 2023.3

SVE	Vac	CHy	O_2	H_2S	CO	CO_2	PID
01	20.7	X2	22.5	0	0	0.12	875
02	21.2	0	22.8	0	0	0.0	202
03	20.0	0	22.6	0	0	0.22	109
06	21.1	1	22.8	0	0	0.18	251
07	20.7	1	22.5	0	0	0.24	450
08	20.7	0	22.8	0	0	0.04	89.0
09	19.8	1	22.6	0	0	0.22	276
Influnt	-	1	22.6	0	0	0.24	435
exhaust	-	1	22.8	0	0	0.14	396

High vac valve still stuck open

14:30 - RH off Site

Hare 14M 8-24-23

ZM, truck, PID, eagle, HVAS, sample kit, 4-gas raining 72°
HASP reviewed, JSA signed
13:10 ZM onsite for O+M and gas sampling
System parameters - running upon arrival

Vac	37 inWC	2191.2 hours at 13:20
Diff Pres	2.9 inWC	
Flow	46 scfm	all valves open, no fluid in KO tank

- Vac relief valve open

SVE	Vac inWC	CH_4 % LEL	O_2 Vol%	H_2S ppm	CO Vol%	CO_2 Vol%	PID ppm
01	21.2	3	22.1	0.0	0	0.12	982
02	21.8	0	22.2	0.0	0	0.02	248
03	21.2	0	21.9	0.0	0	0.18	108
06	21.5	0	22.2	0.0	0	0.04	216
07	20.8	0	22.1	0.0	0	0.04	195
08	21.6	0	22.1	0.0	0	0.06	112
09	20.9	0	22.1	0.0	0	0.10	250
In	-	1	21.7	0.0	0	0.20	610
Out	-	1	21.9	0.0	0	0.10	382

Sample "Hare 14M Influent" PID 610 ppm
2x tedlar bags at 14:05

14:15 leaving site
15:10 drop off samples w/ Christine Walter

Hare 14M Hilcorp 9-1-23

ZM, truck, eagle, PID, HVAS, 4 gas Partly cloudy 85°

- Truck w/ Georgia plates onsite w/ trailer + survey equipment

12:35 ZM onsite, JSA signed

System running, all valves open

Vac 36 in WC 2,382.7 hours

Diff Pres 2.9 in WC at 12:40

Flow 44 scfm no fluids in KO tank

- Vac relief valve stuck open

SVE	Vac	CH_4	Oxy	H_2S	CO	CO_2	PID
01		3	22.2	0.0	0	0.14	792
02		0	22.5	0.0	0	0.02	94.8
03		0	22.5	0.0	0	0.12	64.4
06		0	22.5	0.0	0	0.08	183.2
07		1	22.2	0.0	0	0.22	442
08		0	22.6	0.0	0	0.02	75.9
09		0	22.6	0.0	0	0.02	42.1
IN	-	2	22.4	0.0	0	0.22	438
OUT	-	1	22.5	0.0	0	0.14	308
	inWC	%LEL	Vol%	ppm	ppm	Vol%	ppm

- Surveyors say they are from Tallgrass?

Surveying for CO_2 pipeline

13:25 ZM leaving site

Rate in the Rain

16

Hare 14M 9/8/23

10:45 EC on site for OGM

System on and running all wells open

Vac: 36 IWC Flow 48 SCFM

diff press: 3 IWC Hours 2549.2 @ 10:52

SVE	CH_4	O_2	CO	CO_2	H_2S	PID
01	3	22.0	0	0.14	0.0	763
02	0	22.2	0	0.02	0.0	89.6
03	0	22.3	0	0.11	0.0	65.2
08	0	22.3	0	0.06	0.0	177.9
07	0	22.3	0	0.04	0.0	43.9
06	0	22.4	0	0.02	0.0	75.7
~~Influent~~ 09	0	22.4	0	0.02	0.0	41.0
~~Exhaust~~ Infl	2	22.2	0	0.17	0.0	444
Exh	1	22.3	0	0.12	0.0	412

"Hare 14M influent" collected @ 11:20

Hare 14M 9.14.23 19

ZM, truck, PID, Eagle, HVAS, 4 gas partly cloudy 84°
13:05 ZM on site for SVE O+M
HASP reviewed, JSA signed,

System running, all valves open
Vac 37 inWC 2695.8 hours
Diff pres 2.9 inWC at 13:10
Flow 45 scfm no fluids in KO tank
-Vac relief valve stuck open

SVE	Vac	CH_4	O_2	H_2S	CO	CO_2	PID
01	21.0	3	21.1	0.0	0	0.12	308
02	22.1	1	21.4	0.0	0	0.04	90.6
03	21.1	0	21.4	0.0	0	0.10	32.8
06	21.5	0	21.4	0.0	0	0.04	69.5
07	20.5	1	21.1	0.0	0	0.16	263.9
08	21.9	0	21.7	0.0	0	0.04	43.4
09	20.5	0	21.7	0.0	0	0.04	53.7
IN	-	1	21.2	0.0	0	0.16	292
OUT	-	1	21.4	0.0	0	0.08	219
	inWC	%LEL	Vol%	ppm	ppm	Vol%	ppm

14:15 ZM leaving site

ZM

Rite in the Rain.

64

Location Hare 14M Date 9.21.23

Project / Client Hilcorp

1255 onsite for OtM and sampling
-system running upon arrival, all valves open
JSA signed Vac relief valve stuck open
Vac 36 inWC 2863.7 hours
Diff Press 3.0 inWC at 1300
Flow 46 scfm no fluids in KO tank

SVE	Vac	CH_4	Oxy	H_2S/CO	CO_2	PID
01	20.7	2	21.4	0.0/0	0.08	435
02	21.1	0	21.7	0.0/0	0.04	135
03	19.5	0	21.4	0.0/0	0.02	64
06	21.7	0	21.7	0.0/0	0.00	180
07	21.5	1	21.2	0.0/0	0.12	335
08	20.1	0	21.7	0.0/0	0.04	91
09	19.2	0	21.7	0.0/0	0.04	62
IN	-	1	21.2	0.0/0	0.14	398
OUT	-	1	21.4	0/0	0.06	295
	inWC	% LEL	Vol %	ppm	Vol %	ppm

2x Tedlar Bag gas samples taken
"Hare 14M Influent" at 1335 PID: 398 ppm

~~Sunfay~~ Have 14M 9-29-23

EC, Truck, Vac, PID Sunny 70's

12:00 EC on Site for O&M
System on & running
34 IWC VAC: 2.4 INHg Flow: 50 SCFM
diff press: 3 IWC Hours: 3655.5 @ 12:28

SVE well	Vac	CH_4	O_2	H_2S	CO	CO_2	PID
01		3	20.9	0	0	0.11	499
02		1	20.9	0	0	0.04	88.7
03		0	20.9	0	0	0.10	32.7
06		0	20.9	0	0	0.03	67.4
07		1	20.9	0	0	0.17	266
08		0	20.9	0	0	0.09	42.1
09		0	20.9	0	0	0.03	54.3
Inf		2	20.9	0	0	0.15	288

No water in KO tank.

13:10 EC off-Site

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APPENDIX B

Project Photographs

PROJECT PHOTOGRAPHS
Hare #14M
San Juan County, New Mexico
Hilcorp Energy Company

Photograph 1 Runtime meter taken on June 6, 2023 at 11:59 AM Hours = 291.6	
Photograph 2 Runtime meter taken on September 29, 2023 at 12:28 PM Hours = 3,055.5	

Ensolum, LLC | Environmental & Hydrogeologic Consultants
Durango, Colorado | info@ensolum.com

ENSOLUM

APPENDIX C

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 23, 2023

Stuart Hyde

Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX:

RE: Hare 14M OrderNo.: 2306414

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/8/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306414**
Date Reported: **6/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/6/2023 12:20:00 PM
Lab ID: 2306414-001 **Matrix:** AIR
Received Date: 6/8/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**	
Gasoline Range Organics (GRO)	31000	500		µg/L	100	6/13/2023 1:37:48 PM	GA97399
Surr: BFB	154	15-412		%Rec	100	6/13/2023 1:37:48 PM	GA97399
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	84	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Toluene	480	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Ethylbenzene	25	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2,4-Trimethylbenzene	7.3	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,3,5-Trimethylbenzene	8.4	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Naphthalene	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
1-Methylnaphthalene	ND	20		µg/L	50	6/14/2023 1:09:39 PM	R97458
2-Methylnaphthalene	ND	20		µg/L	50	6/14/2023 1:09:39 PM	R97458
Acetone	ND	50		µg/L	50	6/14/2023 1:09:39 PM	R97458
Bromobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Bromodichloromethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Bromoform	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Bromomethane	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
2-Butanone	ND	50		µg/L	50	6/14/2023 1:09:39 PM	R97458
Carbon disulfide	ND	50		µg/L	50	6/14/2023 1:09:39 PM	R97458
Carbon tetrachloride	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Chlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Chloroethane	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
Chloroform	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Chloromethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
2-Chlorotoluene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
4-Chlorotoluene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
cis-1,2-DCE	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
Dibromochloromethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Dibromomethane	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,3-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,4-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Dichlorodifluoromethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1-Dichloroethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1-Dichloroethene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306414**
Date Reported: **6/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/6/2023 12:20:00 PM
Lab ID: 2306414-001 **Matrix:** AIR **Received Date:** 6/8/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,3-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
2,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Hexachlorobutadiene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
2-Hexanone	ND	50		µg/L	50	6/14/2023 1:09:39 PM	R97458
Isopropylbenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
4-Isopropyltoluene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
4-Methyl-2-pentanone	ND	50		µg/L	50	6/14/2023 1:09:39 PM	R97458
Methylene chloride	ND	15		µg/L	50	6/14/2023 1:09:39 PM	R97458
n-Butylbenzene	ND	15		µg/L	50	6/14/2023 1:09:39 PM	R97458
n-Propylbenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
sec-Butylbenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Styrene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
tert-Butylbenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
trans-1,2-DCE	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1,1-Trichloroethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,1,2-Trichloroethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Trichloroethene (TCE)	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Trichlorofluoromethane	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
1,2,3-Trichloropropane	ND	10		µg/L	50	6/14/2023 1:09:39 PM	R97458
Vinyl chloride	ND	5.0		µg/L	50	6/14/2023 1:09:39 PM	R97458
Xylenes, Total	270	7.5		µg/L	50	6/14/2023 1:09:39 PM	R97458
Surr: Dibromofluoromethane	71.6	70-130		%Rec	50	6/14/2023 1:09:39 PM	R97458
Surr: 1,2-Dichloroethane-d4	74.4	70-130		%Rec	50	6/14/2023 1:09:39 PM	R97458
Surr: Toluene-d8	105	70-130		%Rec	50	6/14/2023 1:09:39 PM	R97458
Surr: 4-Bromofluorobenzene	96.0	70-130		%Rec	50	6/14/2023 1:09:39 PM	R97458

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306414**
Date Reported: **6/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/7/2023 3:40:00 PM
Lab ID: 2306414-002 **Matrix:** AIR
Received Date: 6/8/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**	
Gasoline Range Organics (GRO)	14000	500		µg/L	100	6/13/2023 1:14:09 PM	GA97399
Surr: BFB	131	15-412		%Rec	100	6/13/2023 1:14:09 PM	GA97399
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	43	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Toluene	280	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Ethylbenzene	17	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2,4-Trimethylbenzene	7.2	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,3,5-Trimethylbenzene	7.8	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Naphthalene	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
1-Methylnaphthalene	ND	20		µg/L	50	6/14/2023 2:04:47 PM	R97458
2-Methylnaphthalene	ND	20		µg/L	50	6/14/2023 2:04:47 PM	R97458
Acetone	ND	50		µg/L	50	6/14/2023 2:04:47 PM	R97458
Bromobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Bromodichloromethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Bromoform	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Bromomethane	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
2-Butanone	ND	50		µg/L	50	6/14/2023 2:04:47 PM	R97458
Carbon disulfide	ND	50		µg/L	50	6/14/2023 2:04:47 PM	R97458
Carbon tetrachloride	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Chlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Chloroethane	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
Chloroform	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Chloromethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
2-Chlorotoluene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
4-Chlorotoluene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
cis-1,2-DCE	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
Dibromochloromethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Dibromomethane	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,3-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,4-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Dichlorodifluoromethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1-Dichloroethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1-Dichloroethene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306414**
Date Reported: **6/23/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/7/2023 3:40:00 PM
Lab ID: 2306414-002 **Matrix:** AIR **Received Date:** 6/8/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,3-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
2,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Hexachlorobutadiene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
2-Hexanone	ND	50		µg/L	50	6/14/2023 2:04:47 PM	R97458
Isopropylbenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
4-Isopropyltoluene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
4-Methyl-2-pentanone	ND	50		µg/L	50	6/14/2023 2:04:47 PM	R97458
Methylene chloride	ND	15		µg/L	50	6/14/2023 2:04:47 PM	R97458
n-Butylbenzene	ND	15		µg/L	50	6/14/2023 2:04:47 PM	R97458
n-Propylbenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
sec-Butylbenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Styrene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
tert-Butylbenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
trans-1,2-DCE	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1,1-Trichloroethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,1,2-Trichloroethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Trichloroethene (TCE)	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Trichlorofluoromethane	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
1,2,3-Trichloropropane	ND	10		µg/L	50	6/14/2023 2:04:47 PM	R97458
Vinyl chloride	ND	5.0		µg/L	50	6/14/2023 2:04:47 PM	R97458
Xylenes, Total	200	7.5		µg/L	50	6/14/2023 2:04:47 PM	R97458
Surr: Dibromofluoromethane	84.0	70-130		%Rec	50	6/14/2023 2:04:47 PM	R97458
Surr: 1,2-Dichloroethane-d4	85.3	70-130		%Rec	50	6/14/2023 2:04:47 PM	R97458
Surr: Toluene-d8	100	70-130		%Rec	50	6/14/2023 2:04:47 PM	R97458
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	50	6/14/2023 2:04:47 PM	R97458

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
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ANALYTICAL SUMMARY REPORT

June 22, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: G23060202

Project Name: 2306414

Energy Laboratories Inc. Gillette WY received the following 2 samples for Hall Environmental on 6/9/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G23060202-001	2306414-001B; Influent All Wells	06/06/23 12:20	06/09/23	Gas	Natural Gas Analysis - BTU Natural Gas Analysis - Compressibility Factor Natural Gas Analysis - GPM Natural Gas Analysis - Molecular Weight Natural Gas Analysis - Routine Natural Gas Analysis - Pressure Base Natural Gas Analysis - Psuedo-Critical Pressure Natural Gas Analysis - Psuedo-Critical Temperature Natural Gas Analysis - Specific Gravity Natural Gas Analysis - Temperature Base
G23060202-002	2306414-002B; Influent All Wells	06/07/23 15:40	06/09/23	Gas	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these tests results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: 2306414
Client Sample ID: 2306414-001B; Influent All Wells
Location:
Lab ID: G23060202-001

Report Date: 06/22/23
Collection Date: 06/06/23 12:20
Date Received: 06/09/23
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT					
Oxygen	15.335	Mol %		GPA 2261	06/21/23 10:29 / blb
Nitrogen	80.864	Mol %		GPA 2261	06/21/23 10:29 / blb
Carbon Dioxide	3.526	Mol %		GPA 2261	06/21/23 10:29 / blb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
Methane	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
Ethane	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
Propane	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
Isobutane	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
n-Butane	< 0.001	Mol %		GPA 2261	06/21/23 10:29 / blb
Isopentane	0.002	Mol %		GPA 2261	06/21/23 10:29 / blb
n-Pentane	0.003	Mol %		GPA 2261	06/21/23 10:29 / blb
Hexanes plus	0.270	Mol %		GPA 2261	06/21/23 10:29 / blb
GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS					
GPM Ethane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM n-Butane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Isopentane	0.0010	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM n-Pentane	0.0010	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Hexanes plus	0.1180	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Pentanes plus	0.1190	gal/MCF		GPA 2261	06/21/23 10:29 / blb
GPM Total	0.1190	gal/MCF		GPA 2261	06/21/23 10:29 / blb
CALCULATED PROPERTIES					
Calculation Pressure Base	14.730	psia		GPA 2261	06/21/23 10:29 / blb
Calculation Temperature Base	60	°F		GPA 2261	06/21/23 10:29 / blb
Compressibility Factor, Z	1.0000	unitless		GPA 2261	06/21/23 10:29 / blb
Molecular Weight	29.36	unitless		GPA 2261	06/21/23 10:29 / blb
Pseudo-critical Pressure, psia	551	psia		GPA 2261	06/21/23 10:29 / blb
Pseudo-critical Temperature, deg R	249	deg R		GPA 2261	06/21/23 10:29 / blb
Specific Gravity (air=1.000)	1.017	unitless		GPA 2261	06/21/23 10:29 / blb
Gross BTU per cu ft @ std cond, dry	14.08	BTU/cu ft		GPA 2261	06/21/23 10:29 / blb
Gross BTU per cu ft @ std cond, wet	13.84	BTU/cu ft		GPA 2261	06/21/23 10:29 / blb

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: 2306414
Client Sample ID: 2306414-002B; Influent All Wells
Location:
Lab ID: G23060202-002

Report Date: 06/22/23
Collection Date: 06/07/23 15:40
Date Received: 06/09/23
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT					
Oxygen	21.262	Mol %		GPA 2261	06/21/23 10:40 / blb
Nitrogen	77.481	Mol %		GPA 2261	06/21/23 10:40 / blb
Carbon Dioxide	1.137	Mol %		GPA 2261	06/21/23 10:40 / blb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Methane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Ethane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Propane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Isobutane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
n-Butane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Isopentane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
n-Pentane	< 0.001	Mol %		GPA 2261	06/21/23 10:40 / blb
Hexanes plus	0.120	Mol %		GPA 2261	06/21/23 10:40 / blb
GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS					
GPM Ethane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM n-Butane	< 0.0003	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Isopentane	< 0.0004	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM n-Pentane	< 0.0004	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Hexanes plus	0.0520	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Pentanes plus	0.0520	gal/MCF		GPA 2261	06/21/23 10:40 / blb
GPM Total	0.0520	gal/MCF		GPA 2261	06/21/23 10:40 / blb
CALCULATED PROPERTIES					
Calculation Pressure Base	14.730	psia		GPA 2261	06/21/23 10:40 / blb
Calculation Temperature Base	60	°F		GPA 2261	06/21/23 10:40 / blb
Compressibility Factor, Z	1.0000	unitless		GPA 2261	06/21/23 10:40 / blb
Molecular Weight	29.12	unitless		GPA 2261	06/21/23 10:40 / blb
Pseudo-critical Pressure, psia	551	psia		GPA 2261	06/21/23 10:40 / blb
Pseudo-critical Temperature, deg R	243	deg R		GPA 2261	06/21/23 10:40 / blb
Specific Gravity (air=1.000)	1.008	unitless		GPA 2261	06/21/23 10:40 / blb
Gross BTU per cu ft @ std cond, dry	6.18	BTU/cu ft		GPA 2261	06/21/23 10:40 / blb
Gross BTU per cu ft @ std cond, wet	6.07	BTU/cu ft		GPA 2261	06/21/23 10:40 / blb

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental **Work Order:** G23060202 **Report Date:** 06/22/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261										Analytical Run: R277757
Lab ID: ICV-2306210937	12	Initial Calibration Verification Standard								06/21/23 09:37
Oxygen		0.381	Mol %	0.001	95	75	110			
Nitrogen		5.051	Mol %	0.001	101	90	110			
Carbon Dioxide		4.887	Mol %	0.001	98	90	110			
Hydrogen Sulfide		0.132	Mol %	0.001	133	100	136			
Methane		73.295	Mol %	0.001	100	90	110			
Ethane		5.005	Mol %	0.001	101	90	110			
Propane		5.011	Mol %	0.001	100	90	110			
Isobutane		1.984	Mol %	0.001	99	90	110			
n-Butane		1.966	Mol %	0.001	98	90	110			
Isopentane		0.985	Mol %	0.001	98	90	110			
n-Pentane		0.996	Mol %	0.001	100	90	110			
Hexanes plus		0.307	Mol %	0.001	102	90	110			
Lab ID: CCV-2306210945	12	Continuing Calibration Verification Standard								06/21/23 09:45
Oxygen		0.594	Mol %	0.001	99	90	110			
Nitrogen		1.296	Mol %	0.001	93	85	110			
Carbon Dioxide		0.945	Mol %	0.001	95	90	110			
Hydrogen Sulfide		0.026	Mol %	0.001	104	70	130			
Methane		93.588	Mol %	0.001	100	90	110			
Ethane		1.011	Mol %	0.001	101	90	110			
Propane		1.008	Mol %	0.001	101	90	110			
Isobutane		0.491	Mol %	0.001	98	90	110			
n-Butane		0.490	Mol %	0.001	98	90	110			
Isopentane		0.198	Mol %	0.001	99	90	110			
n-Pentane		0.199	Mol %	0.001	99	90	110			
Hexanes plus		0.154	Mol %	0.001	103	90	110			
Method: GPA 2261										Batch: R277757
Lab ID: G23060202-001ADUP	12	Sample Duplicate				Run: Varian GC_230621A				06/21/23 10:33
Oxygen		15.344	Mol %	0.001				0.1	10	
Nitrogen		80.878	Mol %	0.001				0	10	
Carbon Dioxide		3.520	Mol %	0.001				0.2	10	
Hydrogen Sulfide		< 0.001	Mol %	0.001					10	
Methane		< 0.001	Mol %	0.001					10	
Ethane		< 0.001	Mol %	0.001					10	
Propane		< 0.001	Mol %	0.001					10	
Isobutane		< 0.001	Mol %	0.001					10	
n-Butane		< 0.001	Mol %	0.001					10	
Isopentane		0.002	Mol %	0.001				0.0	10	
n-Pentane		0.003	Mol %	0.001				0.0	10	
Hexanes plus		0.253	Mol %	0.001				6.5	10	
Lab ID: G23060202-002ADUP	12	Sample Duplicate				Run: Varian GC_230621A				06/21/23 10:44
Oxygen		21.281	Mol %	0.001				0.1	10	
Nitrogen		77.470	Mol %	0.001				0	10	
Carbon Dioxide		1.128	Mol %	0.001				0.8	10	

Qualifiers:

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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental **Work Order:** G23060202 **Report Date:** 06/22/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261**										Batch: R277757
Lab ID: **G23060202-002ADUP**	12	Sample Duplicate				Run: Varian GC_230621A				06/21/23 10:44
Hydrogen Sulfide		< 0.001	Mol %	0.001					10	
Methane		< 0.001	Mol %	0.001					10	
Ethane		< 0.001	Mol %	0.001					10	
Propane		< 0.001	Mol %	0.001					10	
Isobutane		< 0.001	Mol %	0.001					10	
n-Butane		< 0.001	Mol %	0.001					10	
Isopentane		< 0.001	Mol %	0.001					10	
n-Pentane		< 0.001	Mol %	0.001					10	
Hexanes plus		0.121	Mol %	0.001				0.8	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

G23060202

Login completed by: Casey A. Mondle
Date Received: 6/9/2023
Reviewed by: cjohnson
Received by: cam
Reviewed Date: 6/12/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Applicable ☑
Container/Temp Blank temperature:	N/A°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque NM 87109
TEL. 505-345-3975
FAX 505-345-4107
Website www.hallenvironmental.com

SUB CONTRATOR: Energy Labs-Gillette	COMPANY: Energy Laboratories		PHONE: (866) 686-7175	FAX:	
ADDRESS: 400 W Boxelder Rd			ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP: Gillette, WY 82718					

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306414-001B	Influent All Wells	TEDLAR	Air	6/6/2023 12:20:00 PM	1	Fixed Gases
2	2306414-002B	Influent All Wells	TEDLAR	Air	6/7/2023 3:40:00 PM	1	Fixed Gases

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By	Date: 6/8/2023	Time: 10:15 AM	Received By: Maddo	Date: 6-9-23	Time: 10:30
Relinquished By	Date:	Time:	Received By	Date:	Time:
Relinquished By	Date:	Time:	Received By	Date:	Time:

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED

☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples ____ °C Attempt to Cool ? ____

Comments: ____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306414**

23-Jun-23

Client: Hilcorp Energy

Project: Hare 14M

Sample ID:	**2306414-001ADUP**	SampType:	**DUP**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**Influent All Wells**	Batch ID:	**GA97399**	RunNo:	**97399**
Prep Date:		Analysis Date:	**6/13/2023**	SeqNo:	**3538700** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31000	500						1.33	20	
Surr: BFB	310000		200000		154	15	412	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306414**

23-Jun-23

Client: Hilcorp Energy

Project: Hare 14M

Sample ID: **2306414-001a dup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent All Wells**	Batch ID: **R97458**	RunNo: **97458**
Prep Date:	Analysis Date: **6/14/2023**	SeqNo: **3541058** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	85	5.0						0.988	20	
Toluene	500	5.0						3.92	20	
Ethylbenzene	23	5.0						6.89	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	7.4	5.0						0.353	20	
1,3,5-Trimethylbenzene	8.3	5.0						1.52	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306414**

23-Jun-23

Client: Hilcorp Energy

Project: Hare 14M

Sample ID: **2306414-001a dup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent All Wells**	Batch ID: **R97458**	RunNo: **97458**
Prep Date:	Analysis Date: **6/14/2023**	SeqNo: **3541058** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	260	7.5						5.06	20	
Surr: Dibromofluoromethane	38		50.00		75.4	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	37		50.00		74.9	70	130	0	0	
Surr: Toluene-d8	54		50.00		108	70	130	0	0	
Surr: 4-Bromofluorobenzene	46		50.00		92.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2306414 | RcptNo: 1

Received By: Tracy Casarrubias 6/8/2023 6:25:00 AM

Completed By: Tracy Casarrubias 6/8/2023 10:10:37 AM

Reviewed By: TMC 6/8/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: JM 6/8/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number and Email are missing on COC- TMC 6/8/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp Energy Co.

Attn: Kate Kaufman

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde

Sampler: Danny Burns

On Ice: ☐ Yes ☒ No

# of Coolers: 1

Cooler Temp(Including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306414	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) Full List	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas O_2+CO_2
6-6-23	1220	Air	Influent All Wells	2-1L Tedlar	NA	001		X						X			X
6-7-23	1540	Air	Influent All Wells	2-1L Tedlar	NA	002		X						X			X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6-7-23	1640				6/7/23	1640
6/7/23	1821			Via: courier	6/8/23	6:25

Remarks: cc: shyde ecarroll @ensolum.com dburns

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 30, 2023

Stuart Hyde
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14M OrderNo.: 2306812

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/15/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306812**
Date Reported: **6/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/13/2023 1:00:00 PM
Lab ID: 2306812-001 **Matrix:** AIR **Received Date:** 6/15/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	11000	500		µg/L	100	6/21/2023 12:17:38 PM
Surr: BFB	142	15-412		%Rec	100	6/21/2023 12:17:38 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	27	5.0		µg/L	50	6/23/2023 3:00:00 PM
Toluene	220	5.0		µg/L	50	6/23/2023 3:00:00 PM
Ethylbenzene	14	5.0		µg/L	50	6/23/2023 3:00:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2,4-Trimethylbenzene	7.0	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,3,5-Trimethylbenzene	7.3	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Naphthalene	ND	10		µg/L	50	6/23/2023 3:00:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	6/23/2023 3:00:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	6/23/2023 3:00:00 PM
Acetone	ND	50		µg/L	50	6/23/2023 3:00:00 PM
Bromobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Bromoform	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Bromomethane	ND	10		µg/L	50	6/23/2023 3:00:00 PM
2-Butanone	ND	50		µg/L	50	6/23/2023 3:00:00 PM
Carbon disulfide	ND	50		µg/L	50	6/23/2023 3:00:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Chlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Chloroethane	ND	10		µg/L	50	6/23/2023 3:00:00 PM
Chloroform	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Chloromethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	6/23/2023 3:00:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Dibromomethane	ND	10		µg/L	50	6/23/2023 3:00:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306812**
Date Reported: **6/30/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: Hare 14M
Collection Date: 6/13/2023 1:00:00 PM
Lab ID: 2306812-001 **Matrix:** AIR **Received Date:** 6/15/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,2-Dichloropropane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1-Dichloropropene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
2-Hexanone	ND	50		µg/L	50	6/23/2023 3:00:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	6/23/2023 3:00:00 PM
Methylene chloride	ND	15		µg/L	50	6/23/2023 3:00:00 PM
n-Butylbenzene	ND	15		µg/L	50	6/23/2023 3:00:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Styrene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	6/23/2023 3:00:00 PM
Vinyl chloride	ND	5.0		µg/L	50	6/23/2023 3:00:00 PM
Xylenes, Total	160	7.5		µg/L	50	6/23/2023 3:00:00 PM
Surr: Dibromofluoromethane	96.1	70-130		%Rec	50	6/23/2023 3:00:00 PM
Surr: 1,2-Dichloroethane-d4	92.0	70-130		%Rec	50	6/23/2023 3:00:00 PM
Surr: Toluene-d8	112	70-130		%Rec	50	6/23/2023 3:00:00 PM
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	50	6/23/2023 3:00:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

June 22, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23061530 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 6/16/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23061530-001	2306812-001B, Influent All Wells	06/13/23 13:00	06/16/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23061530-001
Client Sample ID: 2306812-001B, Influent All Wells

Report Date: 06/22/23
Collection Date: 06/13/23 13:00
DateReceived: 06/16/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.47	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Nitrogen	77.89	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Carbon Dioxide	0.63	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Methane	0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Hexanes plus	<0.01	Mol %		0.01		GPA 2261-95	06/19/23 10:32 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
Hexanes plus	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
GPM Total	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
GPM Pentanes plus	< 0.001	gpm		0.001		GPA 2261-95	06/19/23 10:32 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	ND			1		GPA 2261-95	06/19/23 10:32 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND			1		GPA 2261-95	06/19/23 10:32 / jrj
Pseudo-critical Pressure, psia	547			1		GPA 2261-95	06/19/23 10:32 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	06/19/23 10:32 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	06/19/23 10:32 / jrj
Air, %	98.11			0.01		GPA 2261-95	06/19/23 10:32 / jrj
- The analysis was not corrected for air.							

COMMENTS

-						-	06/19/23 10:32 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23061530 **Report Date:** 06/22/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R403974
Lab ID: **B23061530-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230619A				06/19/23 10:57
Oxygen		21.5	Mol %	0.01				0	20	
Nitrogen		77.9	Mol %	0.01				0	20	
Carbon Dioxide		0.64	Mol %	0.01				1.6	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		<0.01	Mol %	0.01					20	
Lab ID: **LCS061923**	11	Laboratory Control Sample				Run: GCNGA-B_230619A				06/19/23 12:42
Oxygen		0.61	Mol %	0.01	122	70	130			
Nitrogen		5.99	Mol %	0.01	100	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.2	Mol %	0.01	99	70	130			
Ethane		6.01	Mol %	0.01	100	70	130			
Propane		5.42	Mol %	0.01	110	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		1.02	Mol %	0.01	102	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.75	Mol %	0.01	94	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23061530

Login completed by: Yvonna E. Smith
Date Received: 6/16/2023
Reviewed by: cindy
Received by: yes
Reviewed Date: 6/20/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	20.2°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR: **Energy Labs -Billings**	COMPANY: **Energy Laboratories**	PHONE: **(406) 869-6253**	FAX: **(406) 252-6069**
ADDRESS: **1120 South 27th Street**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Billings, MT 59107**			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306812-001B	Influent All Wells	TEDLAR	Air	6/13/2023 1:00:00 PM	1	Natural Gas Analysis, O2, CO2

B23061530

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 6/15/2023	Time: 10:04 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Anna Scott	Date: 6/16/23	Time: 0930

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY
Temp of samples °C Attempt to Cool ?
Comments:

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306812**

30-Jun-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2306812-001adup**	SampType: **DUP**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Influent All Wells**	Batch ID: **GA97610**	RunNo: **97610**
Prep Date:	Analysis Date: **6/21/2023**	SeqNo: **3549089** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	10000	500						2.99	20	
Surr: BFB	280000		200000		141	15	412	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2306812 RcptNo: 1

Received By: **Cheyenne Cason** 6/15/2023 7:00:00 AM

Completed By: **Tracy Casarrubias** 6/15/2023 10:03:27 AM

Reviewed By: mg 6/15/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: jm 6/15/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number and Email missing on COC- TMC 6/15/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp Energy Co.

Attn. Kate Kaufmann

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hare 14 M

Project #:

Project Manager: Stuart Hyde

Sampler: Danny Burns

On Ice: ☐ Yes ☒ No Yes

# of Coolers: 1

Cooler Temp(Including CF): NA (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306812	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) Full List	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas or TOC				
6-13	1300	Air	Influent All Wells	2-Tedlar	NA	001		X						X			X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6-14	1431				6/14/23	1431
6/14/23	1618		CMC	courier	6(15)23	0700

Remarks:

cc: ecarroll dhencmann shyde dburns @ensolum.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 12, 2023

Kate Kaufman

Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX:

RE: Hare 14 M OrderNo.: 2306E13

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/28/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306E13**
Date Reported: **7/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent
Project: Hare 14 M
Collection Date: 6/23/2023 12:30:00 PM
Lab ID: 2306E13-001 **Matrix:** AIR
Received Date: 6/28/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**	
Gasoline Range Organics (GRO)	3400	500		µg/L	100	6/30/2023 2:55:31 PM	GA97857
Surr: BFB	117	15-412		%Rec	100	6/30/2023 2:55:31 PM	GA97857
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
Benzene	2.7	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Toluene	41	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Ethylbenzene	3.9	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2,4-Trimethylbenzene	2.3	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,3,5-Trimethylbenzene	2.4	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Naphthalene	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1-Methylnaphthalene	ND	4.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
2-Methylnaphthalene	ND	4.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Acetone	ND	10		µg/L	10	7/7/2023 10:22:19 AM	R98027
Bromobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Bromodichloromethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Bromoform	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Bromomethane	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
2-Butanone	ND	10		µg/L	10	7/7/2023 10:22:19 AM	R98027
Carbon disulfide	ND	10		µg/L	10	7/7/2023 10:22:19 AM	R98027
Carbon tetrachloride	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Chlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Chloroethane	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Chloroform	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Chloromethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
2-Chlorotoluene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
4-Chlorotoluene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
cis-1,2-DCE	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
cis-1,3-Dichloropropene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Dibromochloromethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Dibromomethane	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2-Dichlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,3-Dichlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,4-Dichlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Dichlorodifluoromethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1-Dichloroethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1-Dichloroethene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306E13**
Date Reported: **7/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: Influent
Project: Hare 14 M
Collection Date: 6/23/2023 12:30:00 PM
Lab ID: 2306E13-001 **Matrix:** AIR
Received Date: 6/28/2023 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **JR**	
1,2-Dichloropropane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,3-Dichloropropane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
2,2-Dichloropropane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1-Dichloropropene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Hexachlorobutadiene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
2-Hexanone	ND	10		µg/L	10	7/7/2023 10:22:19 AM	R98027
Isopropylbenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
4-Isopropyltoluene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
4-Methyl-2-pentanone	ND	10		µg/L	10	7/7/2023 10:22:19 AM	R98027
Methylene chloride	ND	3.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
n-Butylbenzene	ND	3.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
n-Propylbenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
sec-Butylbenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Styrene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
tert-Butylbenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Tetrachloroethene (PCE)	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
trans-1,2-DCE	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
trans-1,3-Dichloropropene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2,3-Trichlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2,4-Trichlorobenzene	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1,1-Trichloroethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,1,2-Trichloroethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Trichloroethene (TCE)	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Trichlorofluoromethane	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
1,2,3-Trichloropropane	ND	2.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Vinyl chloride	ND	1.0		µg/L	10	7/7/2023 10:22:19 AM	R98027
Xylenes, Total	50	1.5		µg/L	10	7/7/2023 10:22:19 AM	R98027
Surr: Dibromofluoromethane	105	70-130		%Rec	10	7/7/2023 10:22:19 AM	R98027
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	10	7/7/2023 10:22:19 AM	R98027
Surr: Toluene-d8	105	70-130		%Rec	10	7/7/2023 10:22:19 AM	R98027
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	10	7/7/2023 10:22:19 AM	R98027

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

July 06, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23062510 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 6/29/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23062510-001	2306E13-001B, Influent	06/23/23 12:30	06/29/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23062510-001
Client Sample ID: 2306E13-001B, Influent

Report Date: 07/06/23
Collection Date: 06/23/23 12:30
DateReceived: 06/29/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.59	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Nitrogen	77.78	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Carbon Dioxide	0.38	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Methane	0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Hexanes plus	0.24	Mol %		0.01		GPA 2261-95	06/30/23 11:47 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
Hexanes plus	0.101	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
GPM Total	0.101	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
GPM Pentanes plus	0.101	gpm		0.001		GPA 2261-95	06/30/23 11:47 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	12			1		GPA 2261-95	06/30/23 11:47 / jrj
Net BTU per cu ft @ std cond. (LHV)	11			1		GPA 2261-95	06/30/23 11:47 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	06/30/23 11:47 / jrj
Pseudo-critical Temperature, deg R	241			1		GPA 2261-95	06/30/23 11:47 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	06/30/23 11:47 / jrj
Air, %	98.67			0.01		GPA 2261-95	06/30/23 11:47 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	06/30/23 11:47 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23062510 **Report Date:** 07/06/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R404747
Lab ID: **B23062510-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230630A				06/30/23 12:12
Oxygen		21.6	Mol %	0.01				0	20	
Nitrogen		77.8	Mol %	0.01				0	20	
Carbon Dioxide		0.38	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.25	Mol %	0.01				4.1	20	
Lab ID: **LCS063023**	11	Laboratory Control Sample				Run: GCNGA-B_230630A				06/30/23 12:48
Oxygen		0.59	Mol %	0.01	118	70	130			
Nitrogen		6.05	Mol %	0.01	101	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.4	Mol %	0.01	99	70	130			
Ethane		6.02	Mol %	0.01	100	70	130			
Propane		5.20	Mol %	0.01	105	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.79	Mol %	0.01	99	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23062510

Login completed by: Yvonna E. Smith
Date Received: 6/29/2023
Reviewed by: cindy
Received by: htm
Reviewed Date: 7/5/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	17.8°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Energy Labs -Billings	COMPANY:	Energy Laboratories	PHONE: (406) 869-6253	FAX: (406) 252-6069
ADDRESS:	1120 South 27th Street			ACCOUNT #:	EMAIL:
CITY, STATE, ZIP:	Billings, MT 59107				

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306E13-001B	Influent	TEDLAR	Air	6/23/2023 12:30:00 PM	1	Natuural Gas Analysis 02,CO2

B23062510

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 6/28/2023	Time: 8:45 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	6/29/23	Time: 1045

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples °C Attempt to Cool ?
Comments:

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306E13**

12-Jul-23

Client: Hilcorp Energy

Project: Hare 14 M

Sample ID: **2306e13-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent**	Batch ID: **R98027**	RunNo: **98027**
Prep Date:	Analysis Date: **7/7/2023**	SeqNo: **3566743** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	2.3	1.0						19.2	20	
Toluene	35	1.0						16.1	20	
Ethylbenzene	3.2	1.0						17.2	20	
Methyl tert-butyl ether (MTBE)	ND	1.0						0	20	
1,2,4-Trimethylbenzene	1.9	1.0						18.2	20	
1,3,5-Trimethylbenzene	2.0	1.0						22.1	20	R
1,2-Dichloroethane (EDC)	ND	1.0						0	20	
1,2-Dibromoethane (EDB)	ND	1.0						0	20	
Naphthalene	ND	2.0						0	20	
1-Methylnaphthalene	ND	4.0						0	20	
2-Methylnaphthalene	ND	4.0						0	20	
Acetone	ND	10						0	20	
Bromobenzene	ND	1.0						0	20	
Bromodichloromethane	ND	1.0						0	20	
Bromoform	ND	1.0						0	20	
Bromomethane	ND	2.0						0	20	
2-Butanone	ND	10						0	20	
Carbon disulfide	ND	10						0	20	
Carbon tetrachloride	ND	1.0						0	20	
Chlorobenzene	ND	1.0						0	20	
Chloroethane	ND	2.0						0	20	
Chloroform	ND	1.0						0	20	
Chloromethane	ND	1.0						0	20	
2-Chlorotoluene	ND	1.0						0	20	
4-Chlorotoluene	ND	1.0						0	20	
cis-1,2-DCE	ND	1.0						0	20	
cis-1,3-Dichloropropene	ND	1.0						0	20	
1,2-Dibromo-3-chloropropane	ND	2.0						0	20	
Dibromochloromethane	ND	1.0						0	20	
Dibromomethane	ND	2.0						0	20	
1,2-Dichlorobenzene	ND	1.0						0	20	
1,3-Dichlorobenzene	ND	1.0						0	20	
1,4-Dichlorobenzene	ND	1.0						0	20	
Dichlorodifluoromethane	ND	1.0						0	20	
1,1-Dichloroethane	ND	1.0						0	20	
1,1-Dichloroethene	ND	1.0						0	20	
1,2-Dichloropropane	ND	1.0						0	20	
1,3-Dichloropropane	ND	1.0						0	20	
2,2-Dichloropropane	ND	1.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306E13**

12-Jul-23

Client: Hilcorp Energy

Project: Hare 14 M

Sample ID: **2306e13-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent**	Batch ID: **R98027**	RunNo: **98027**
Prep Date:	Analysis Date: **7/7/2023**	SeqNo: **3566743** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0						0	20	
Hexachlorobutadiene	ND	1.0						0	20	
2-Hexanone	ND	10						0	20	
Isopropylbenzene	ND	1.0						0	20	
4-Isopropyltoluene	ND	1.0						0	20	
4-Methyl-2-pentanone	ND	10						0	20	
Methylene chloride	ND	3.0						0	20	
n-Butylbenzene	ND	3.0						0	20	
n-Propylbenzene	ND	1.0						0	20	
sec-Butylbenzene	ND	1.0						0	20	
Styrene	ND	1.0						0	20	
tert-Butylbenzene	ND	1.0						0	20	
1,1,1,2-Tetrachloroethane	ND	1.0						0	20	
1,1,2,2-Tetrachloroethane	ND	1.0						0	20	
Tetrachloroethene (PCE)	ND	1.0						0	20	
trans-1,2-DCE	ND	1.0						0	20	
trans-1,3-Dichloropropene	ND	1.0						0	20	
1,2,3-Trichlorobenzene	ND	1.0						0	20	
1,2,4-Trichlorobenzene	ND	1.0						0	20	
1,1,1-Trichloroethane	ND	1.0						0	20	
1,1,2-Trichloroethane	ND	1.0						0	20	
Trichloroethene (TCE)	ND	1.0						0	20	
Trichlorofluoromethane	ND	1.0						0	20	
1,2,3-Trichloropropane	ND	2.0						0	20	
Vinyl chloride	ND	1.0						0	20	
Xylenes, Total	42	1.5						16.8	20	
Surr: Dibromofluoromethane	10		10.00		104	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130	0	0	
Surr: Toluene-d8	9.7		10.00		96.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2306E13 | RcptNo: 1

Received By: Tracy Casarrubias 6/28/2023 6:45:00 AM
Completed By: Tracy Casarrubias 6/28/2023 8:41:29 AM
Reviewed By: 6/28/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: 6/28/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions: Mailing address, phone number, and Email/Fax are missing on COC- TMC 6/28/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Kate Kaufman kkaufman@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush

Project Name: Hare 14M

Project #: 07A1988023

Project Manager:

Stuart Hyde

shyde@ensolum.com

Sampler:

On Ice: ☐ Yes ☒ No

# of Coolers: 1

Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306E13
6/23/23	12:30	gas	influent	2x tedlar	–	001

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	✓ VOC's 8260B	✓ TVPH 8015	✓ O_2 + CO_2 (fixed gas)			
										✓	✓	✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/27/23	15:00				6/27/23	1500
6/27/23	1812			courier	6/28/23	6:45

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 18, 2023

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14 M OrderNo.: 2306G11

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/30/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306G11**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: Hare 14 M
Collection Date: 6/29/2023 12:30:00 PM
Lab ID: 2306G11-001 **Matrix:** AIR
Received Date: 6/30/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**
Gasoline Range Organics (GRO)	5000	250		µg/L	50	7/5/2023 2:05:00 PM
Surr: BFB	154	15-412		%Rec	50	7/5/2023 2:05:00 PM
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	8.8	5.0		µg/L	50	7/12/2023 10:58:00 AM
Toluene	150	5.0		µg/L	50	7/12/2023 10:58:00 AM
Ethylbenzene	13	5.0		µg/L	50	7/12/2023 10:58:00 AM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2,4-Trimethylbenzene	7.3	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,3,5-Trimethylbenzene	7.8	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Naphthalene	ND	10		µg/L	50	7/12/2023 10:58:00 AM
1-Methylnaphthalene	ND	20		µg/L	50	7/12/2023 10:58:00 AM
2-Methylnaphthalene	ND	20		µg/L	50	7/12/2023 10:58:00 AM
Acetone	ND	50		µg/L	50	7/12/2023 10:58:00 AM
Bromobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Bromodichloromethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Bromoform	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Bromomethane	ND	10		µg/L	50	7/12/2023 10:58:00 AM
2-Butanone	ND	50		µg/L	50	7/12/2023 10:58:00 AM
Carbon disulfide	ND	50		µg/L	50	7/12/2023 10:58:00 AM
Carbon tetrachloride	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Chlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Chloroethane	ND	10		µg/L	50	7/12/2023 10:58:00 AM
Chloroform	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Chloromethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
2-Chlorotoluene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
4-Chlorotoluene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
cis-1,2-DCE	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	7/12/2023 10:58:00 AM
Dibromochloromethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Dibromomethane	ND	10		µg/L	50	7/12/2023 10:58:00 AM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Dichlorodifluoromethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1-Dichloroethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1-Dichloroethene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306G11**
Date Reported: **7/18/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent All Wells
Project: Hare 14 M
Collection Date: 6/29/2023 12:30:00 PM
Lab ID: 2306G11-001 **Matrix:** AIR
Received Date: 6/30/2023 6:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,2-Dichloropropane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,3-Dichloropropane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
2,2-Dichloropropane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1-Dichloropropene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Hexachlorobutadiene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
2-Hexanone	ND	50		µg/L	50	7/12/2023 10:58:00 AM
Isopropylbenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
4-Isopropyltoluene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
4-Methyl-2-pentanone	ND	50		µg/L	50	7/12/2023 10:58:00 AM
Methylene chloride	ND	15		µg/L	50	7/12/2023 10:58:00 AM
n-Butylbenzene	ND	15		µg/L	50	7/12/2023 10:58:00 AM
n-Propylbenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
sec-Butylbenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Styrene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
tert-Butylbenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
trans-1,2-DCE	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Trichloroethene (TCE)	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Trichlorofluoromethane	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
1,2,3-Trichloropropane	ND	10		µg/L	50	7/12/2023 10:58:00 AM
Vinyl chloride	ND	5.0		µg/L	50	7/12/2023 10:58:00 AM
Xylenes, Total	160	7.5		µg/L	50	7/12/2023 10:58:00 AM
Surr: Dibromofluoromethane	101	70-130		%Rec	50	7/12/2023 10:58:00 AM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	50	7/12/2023 10:58:00 AM
Surr: Toluene-d8	138	70-130	S	%Rec	50	7/12/2023 10:58:00 AM
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	50	7/12/2023 10:58:00 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

ANALYTICAL SUMMARY REPORT

July 17, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23070298 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 7/6/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23070298-001	2306G11-001B, Influent All Wells	06/29/23 12:30	07/06/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23070298-001
Client Sample ID: 2306G11-001B, Influent All Wells

Report Date: 07/17/23
Collection Date: 06/29/23 12:30
DateReceived: 07/06/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.63	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Nitrogen	77.81	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Carbon Dioxide	0.31	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Hexanes plus	0.25	Mol %		0.01		GPA 2261-95	07/10/23 11:53 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
Hexanes plus	0.105	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
GPM Total	0.105	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
GPM Pentanes plus	0.105	gpm		0.001		GPA 2261-95	07/10/23 11:53 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	12			1		GPA 2261-95	07/10/23 11:53 / jrj
Net BTU per cu ft @ std cond. (LHV)	11			1		GPA 2261-95	07/10/23 11:53 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	07/10/23 11:53 / jrj
Pseudo-critical Temperature, deg R	241			1		GPA 2261-95	07/10/23 11:53 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	07/10/23 11:53 / jrj
Air, %	98.83			0.01		GPA 2261-95	07/10/23 11:53 / jrj
- The analysis was not corrected for air.							

COMMENTS

-						-	07/10/23 11:53 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23070298 **Report Date:** 07/17/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R405186
Lab ID: **B23070297-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230710A				07/10/23 11:21
Oxygen		20.7	Mol %	0.01				0.1	20	
Nitrogen		77.2	Mol %	0.01				0.1	20	
Carbon Dioxide		0.98	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		1.07	Mol %	0.01				11	20	
Lab ID: **LCS071023**	11	Laboratory Control Sample				Run: GCNGA-B_230710A				07/10/23 12:23
Oxygen		0.61	Mol %	0.01	122	70	130			
Nitrogen		5.97	Mol %	0.01	99	70	130			
Carbon Dioxide		1.01	Mol %	0.01	102	70	130			
Methane		74.2	Mol %	0.01	99	70	130			
Ethane		6.03	Mol %	0.01	100	70	130			
Propane		5.15	Mol %	0.01	104	70	130			
Isobutane		2.02	Mol %	0.01	101	70	130			
n-Butane		2.04	Mol %	0.01	102	70	130			
Isopentane		1.02	Mol %	0.01	102	70	130			
n-Pentane		1.05	Mol %	0.01	105	70	130			
Hexanes plus		0.87	Mol %	0.01	109	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Hall Environmental

B23070298

Login completed by: Yvonna E. Smith
Date Received: 7/6/2023
Reviewed by: gmccartney
Received by: crs
Reviewed Date: 7/15/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	19.5°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Energy Labs -Billings	COMPANY:	Energy Laboratories	PHONE:	(406) 869-6253	FAX:	(406) 252-6069
ADDRESS:	1120 South 27th Street			ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP:	Billings, MT 59107						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306G11-001B	Influent All Wells	TEDLAR	Air	6/29/2023 12:30:00 PM	1	Natural Gas Analysis. O2, CO2

B23070298

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 6/30/2023	Time: 7:29 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Undeen 7/6/23	Date:	Time: 0855

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY
Temp of samples °C Attempt to Cool ?
Comments:

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306G11**

18-Jul-23

Client: HILCORP ENERGY

Project: Hare 14 M

Sample ID:	**2306G11-001adup**	SampType:	**DUP**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**Influent All Wells**	Batch ID:	**R97913**	RunNo:	**97913**
Prep Date:		Analysis Date:	**7/5/2023**	SeqNo:	**3563440** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	5300	250						4.25	20	
Surr: BFB	160000		100000		160	15	412	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306G11**

18-Jul-23

Client: HILCORP ENERGY

Project: Hare 14 M

Sample ID: **2306G11-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent All Wells**	Batch ID: **R98117**	RunNo: **98117**
Prep Date:	Analysis Date: **7/12/2023**	SeqNo: **3570689** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	9.2	5.0						4.24	20	
Toluene	160	5.0						4.44	20	
Ethylbenzene	14	5.0						7.00	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	8.0	5.0						8.79	20	
1,3,5-Trimethylbenzene	8.5	5.0						8.94	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306G11**

18-Jul-23

Client: HILCORP ENERGY

Project: Hare 14 M

Sample ID: **2306G11-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Influent All Wells**	Batch ID: **R98117**	RunNo: **98117**
Prep Date:	Analysis Date: **7/12/2023**	SeqNo: **3570689** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	170	7.5						6.69	20	
Surr: Dibromofluoromethane	51		50.00		103	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	48		50.00		95.4	70	130	0	0	
Surr: Toluene-d8	63		50.00		125	70	130	0	0	
Surr: 4-Bromofluorobenzene	62		50.00		123	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2306G11 RcptNo: 1

Received By: **Tracy Casarrubias** 6/30/2023 6:25:00 AM

Completed By: **Tracy Casarrubias** 6/30/2023 7:25:24 AM

Reviewed By: JN 6/30/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☑
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: SCM 06/30/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address, phone number and Email/Fax are missing on COC-TMC 6/30/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp Energy Co.

Attn: Kate Kaufman

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☒ EDD (Type) PDF

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde

Sampler: Danny Burns

On Ice: ☐ Yes ☒ No

# of Coolers: 1

Cooler Temp(Including CF): NA (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306G11	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) Full List	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas CO_2 H_2
6-29-23	12:30	Air	Influent All Wells	2-1L Tedlar	NA	001		X						X			X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6-29-23	1504				6/29/23	1504
6/29/23	1824			Courier	6/30/23	6:25

Remarks: dburns

cc: dhencmann@ensolum.com

zmyers

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 21, 2023

Kate Kaufman

Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX:

RE: Hare 14 M OrderNo.: 2307627

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/14/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2307627**
Date Reported: **7/21/2023**

CLIENT: Hilcorp Energy
Client Sample ID: Hare #14M Influent
Project: Hare 14 M
Collection Date: 7/13/2023 2:45:00 PM
Lab ID: 2307627-001 **Matrix:** AIR
Received Date: 7/14/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	4500	250		µg/L	1	7/14/2023 2:39:00 PM	G98239
Surr: BFB	98.0	70-130		%Rec	1	7/14/2023 2:39:00 PM	G98239
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Toluene	120	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Ethylbenzene	11	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2,4-Trimethylbenzene	6.1	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,3,5-Trimethylbenzene	6.5	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Naphthalene	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
1-Methylnaphthalene	ND	20		µg/L	50	7/14/2023 2:39:00 PM	R98239
2-Methylnaphthalene	ND	20		µg/L	50	7/14/2023 2:39:00 PM	R98239
Acetone	ND	50		µg/L	50	7/14/2023 2:39:00 PM	R98239
Bromobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Bromodichloromethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Bromoform	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Bromomethane	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
2-Butanone	ND	50		µg/L	50	7/14/2023 2:39:00 PM	R98239
Carbon disulfide	ND	50		µg/L	50	7/14/2023 2:39:00 PM	R98239
Carbon tetrachloride	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Chlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Chloroethane	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
Chloroform	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Chloromethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
2-Chlorotoluene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
4-Chlorotoluene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
cis-1,2-DCE	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
Dibromochloromethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Dibromomethane	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2-Dichlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,3-Dichlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,4-Dichlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Dichlorodifluoromethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1-Dichloroethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1-Dichloroethene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2307627**
Date Reported: **7/21/2023**

CLIENT: Hilcorp Energy
Client Sample ID: Hare #14M Influent
Project: Hare 14 M
Collection Date: 7/13/2023 2:45:00 PM
Lab ID: 2307627-001 **Matrix:** AIR
Received Date: 7/14/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,2-Dichloropropane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,3-Dichloropropane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
2,2-Dichloropropane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1-Dichloropropene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Hexachlorobutadiene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
2-Hexanone	ND	50		µg/L	50	7/14/2023 2:39:00 PM	R98239
Isopropylbenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
4-Isopropyltoluene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
4-Methyl-2-pentanone	ND	50		µg/L	50	7/14/2023 2:39:00 PM	R98239
Methylene chloride	ND	15		µg/L	50	7/14/2023 2:39:00 PM	R98239
n-Butylbenzene	ND	15		µg/L	50	7/14/2023 2:39:00 PM	R98239
n-Propylbenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
sec-Butylbenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Styrene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
tert-Butylbenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
trans-1,2-DCE	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1,1-Trichloroethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,1,2-Trichloroethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Trichloroethene (TCE)	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Trichlorofluoromethane	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
1,2,3-Trichloropropane	ND	10		µg/L	50	7/14/2023 2:39:00 PM	R98239
Vinyl chloride	ND	5.0		µg/L	50	7/14/2023 2:39:00 PM	R98239
Xylenes, Total	140	7.5		µg/L	50	7/14/2023 2:39:00 PM	R98239
Surr: Dibromofluoromethane	103	70-130		%Rec	50	7/14/2023 2:39:00 PM	R98239
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	50	7/14/2023 2:39:00 PM	R98239
Surr: Toluene-d8	132	70-130	S	%Rec	50	7/14/2023 2:39:00 PM	R98239
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	50	7/14/2023 2:39:00 PM	R98239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

July 20, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23071209 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 7/18/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23071209-001	2307627-001B, Hare #14M Influent	07/13/23 14:45	07/18/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23071209-001
Client Sample ID: 2307627-001B, Hare #14M Influent

Report Date: 07/20/23
Collection Date: 07/13/23 14:45
DateReceived: 07/18/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.64	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Nitrogen	77.90	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Carbon Dioxide	0.28	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Methane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Ethane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Propane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Hexanes plus	0.18	Mol %		0.01		GPA 2261-95	07/19/23 10:40 / ikc
Propane	< 0.001	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
Hexanes plus	0.076	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
GPM Total	0.076	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
GPM Pentanes plus	0.076	gpm		0.001		GPA 2261-95	07/19/23 10:40 / ikc
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	9			1		GPA 2261-95	07/19/23 10:40 / ikc
Net BTU per cu ft @ std cond. (LHV)	8			1		GPA 2261-95	07/19/23 10:40 / ikc
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	07/19/23 10:40 / ikc
Pseudo-critical Temperature, deg R	241			1		GPA 2261-95	07/19/23 10:40 / ikc
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	07/19/23 10:40 / ikc
Air, %	98.86			0.01		GPA 2261-95	07/19/23 10:40 / ikc
- The analysis was not corrected for air.							
COMMENTS							
-						-	07/19/23 10:40 / ikc

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23071209 **Report Date:** 07/20/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R405676
Lab ID: **B23071208-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230719A				07/19/23 10:05
Oxygen		21.4	Mol %	0.01				0.1	20	
Nitrogen		77.5	Mol %	0.01				0	20	
Carbon Dioxide		0.48	Mol %	0.01				2.1	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.65	Mol %	0.01				6.0	20	
Lab ID: **LCS071923**	11	Laboratory Control Sample				Run: GCNGA-B_230719A				07/19/23 15:40
Oxygen		0.60	Mol %	0.01	120	70	130			
Nitrogen		5.99	Mol %	0.01	100	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.4	Mol %	0.01	99	70	130			
Ethane		6.04	Mol %	0.01	101	70	130			
Propane		5.27	Mol %	0.01	107	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		1.99	Mol %	0.01	99	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.75	Mol %	0.01	94	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23071209

Login completed by: Leslie S. Cadreau
Date Received: 7/18/2023
Reviewed by: gmccartney
Received by: lel
Reviewed Date: 7/19/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	22.6°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR	Energy Labs -Billings	COMPANY:	Energy Laboratories	PHONE:	(406) 869-6253	FAX:	(406) 252-6069
ADDRESS	1120 South 27th Street			ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP	Billings, MT 59107						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2307627-001B	Hare #14M Influent	TEDLAR	Air	7/13/2023 2:45:00 PM	1	**5 DAY TAT** Natural Gas Analysis 02,CO2

B2307209

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 7/14/2023	Time: 7:04 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Lyndi Lehane	Date: 7/18/23	Time: 09:20

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY
Temp of samples °C Attempt to Cool ?
Comments:

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307627**

21-Jul-23

Client: Hilcorp Energy

Project: Hare 14 M

Sample ID: **2307627-001adup** SampType: **DUP** TestCode: **EPA Method 8260B: Volatiles**

Client ID: **Hare #14M Influent** Batch ID: **R98239** RunNo: **98239**

Prep Date: Analysis Date: **7/14/2023** SeqNo: **3575442** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	5.0						0	20	
Toluene	120	5.0						3.59	20	
Ethylbenzene	11	5.0						3.34	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	6.2	5.0						0.488	20	
1,3,5-Trimethylbenzene	6.6	5.0						1.69	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307627**

21-Jul-23

Client: Hilcorp Energy

Project: Hare 14 M

Sample ID: **2307627-001adup** SampType: **DUP** TestCode: **EPA Method 8260B: Volatiles**

Client ID: **Hare #14M Influent** Batch ID: **R98239** RunNo: **98239**

Prep Date: Analysis Date: **7/14/2023** SeqNo: **3575442** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	140	7.5						2.70	20	
Surr: Dibromofluoromethane	50		50.00		101	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	47		50.00		94.3	70	130	0	0	
Surr: Toluene-d8	66		50.00		133	70	130	0	0	S
Surr: 4-Bromofluorobenzene	59		50.00		118	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307627**

21-Jul-23

Client: Hilcorp Energy

Project: Hare 14 M

Sample ID: **2307627-001adup**	SampType: **DUP**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Hare #14M Influent**	Batch ID: **G98239**	RunNo: **98239**
Prep Date:	Analysis Date: **7/14/2023**	SeqNo: **3578703** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	4600	250						2.87	20	
Surr: BFB	48000		50000		96.4	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Hilcorp Energy Work Order Number: 2307627 RcptNo: 1

Received By: Tracy Casarrubias 7/14/2023 6:30:00 AM

Completed By: Tracy Casarrubias 7/14/2023 6:54:36 AM

Reviewed By: JH 7.14.23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☑ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☐ No ☐ NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☑
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: JM 7/14/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number, and Email/Fax are missing on COC- TMC 7/14/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp, Kate Kaufman
kkaufman@hilcorp.com
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard 5-day ☐ Rush
Project Name:
Hare #14M
Project #:

Project Manager: Stuart Hyde
shyde@ensolum.com
Sampler:
On Ice: ☐ Yes ☒ No
# of Coolers: 1
Cooler Temp (Including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 23076627	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) full list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed gas O_2, CO_2
7/13/23	1445	air	Hare #14M Influent	2x tedlar	—	001		✓						✓			✓

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
7/13/23	1600				7/13/23	1600
7/13/23	1810			courier	7/14/23	6:30

Remarks:
CC: zmyers@ensolum.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 10, 2023

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14M OrderNo.: 2307D96

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/28/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2307D96**
Date Reported: **8/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare #14M Influent
Project: Hare 14M
Collection Date: 7/27/2023 11:35:00 AM
Lab ID: 2307D96-001 **Matrix:** AIR
Received Date: 7/28/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Toluene	62	5.0		µg/L	50	8/2/2023 1:13:00 PM
Ethylbenzene	5.7	5.0		µg/L	50	8/2/2023 1:13:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Naphthalene	ND	10		µg/L	50	8/2/2023 1:13:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	8/2/2023 1:13:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	8/2/2023 1:13:00 PM
Acetone	ND	50		µg/L	50	8/2/2023 1:13:00 PM
Bromobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Bromoform	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Bromomethane	ND	10		µg/L	50	8/2/2023 1:13:00 PM
2-Butanone	ND	50		µg/L	50	8/2/2023 1:13:00 PM
Carbon disulfide	ND	50		µg/L	50	8/2/2023 1:13:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Chlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Chloroethane	ND	10		µg/L	50	8/2/2023 1:13:00 PM
Chloroform	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Chloromethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	8/2/2023 1:13:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Dibromomethane	ND	10		µg/L	50	8/2/2023 1:13:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2307D96**
Date Reported: **8/10/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare #14M Influent
Project: Hare 14M
Collection Date: 7/27/2023 11:35:00 AM
Lab ID: 2307D96-001 **Matrix:** AIR
Received Date: 7/28/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
2-Hexanone	ND	50		µg/L	50	8/2/2023 1:13:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	8/2/2023 1:13:00 PM
Methylene chloride	ND	15		µg/L	50	8/2/2023 1:13:00 PM
n-Butylbenzene	ND	15		µg/L	50	8/2/2023 1:13:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Styrene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	8/2/2023 1:13:00 PM
Vinyl chloride	ND	5.0		µg/L	50	8/2/2023 1:13:00 PM
Xylenes, Total	73	7.5		µg/L	50	8/2/2023 1:13:00 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	50	8/2/2023 1:13:00 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	50	8/2/2023 1:13:00 PM
Surr: Toluene-d8	126	70-130		%Rec	50	8/2/2023 1:13:00 PM
Surr: 4-Bromofluorobenzene	127	70-130		%Rec	50	8/2/2023 1:13:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2700	250		µg/L	50	8/2/2023 1:13:00 PM
Surr: BFB	91.8	70-130		%Rec	50	8/2/2023 1:13:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

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ANALYTICAL SUMMARY REPORT

August 09, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23080297 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 8/2/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23080297-001	2307D96-001B, Hare #14M Influent	07/27/23 11:35	08/02/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23080297-001
Client Sample ID: 2307D96-001B, Hare #14M Influent

Report Date: 08/09/23
Collection Date: 07/27/23 11:35
DateReceived: 08/02/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.70	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Nitrogen	77.92	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Carbon Dioxide	0.22	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Hexanes plus	0.16	Mol %		0.01		GPA 2261-95	08/03/23 10:26 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
Hexanes plus	0.067	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
GPM Total	0.067	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
GPM Pentanes plus	0.067	gpm		0.001		GPA 2261-95	08/03/23 10:26 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	8			1		GPA 2261-95	08/03/23 10:26 / jrj
Net BTU per cu ft @ std cond. (LHV)	7			1		GPA 2261-95	08/03/23 10:26 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	08/03/23 10:26 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	08/03/23 10:26 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	08/03/23 10:26 / jrj
Air, %	99.15			0.01		GPA 2261-95	08/03/23 10:26 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	08/03/23 10:26 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23080297 **Report Date:** 08/09/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R406457
Lab ID: **B23080296-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230803A				08/03/23 10:00
Oxygen		21.0	Mol %	0.01				0.1	20	
Nitrogen		77.4	Mol %	0.01				0.1	20	
Carbon Dioxide		0.72	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.97	Mol %	0.01				6.4	20	
Lab ID: **LCS080323**	11	Laboratory Control Sample				Run: GCNGA-B_230803A				08/03/23 12:42
Oxygen		0.59	Mol %	0.01	118	70	130			
Nitrogen		5.92	Mol %	0.01	99	70	130			
Carbon Dioxide		1.01	Mol %	0.01	102	70	130			
Methane		74.3	Mol %	0.01	99	70	130			
Ethane		6.07	Mol %	0.01	101	70	130			
Propane		5.16	Mol %	0.01	105	70	130			
Isobutane		2.02	Mol %	0.01	101	70	130			
n-Butane		2.03	Mol %	0.01	101	70	130			
Isopentane		1.03	Mol %	0.01	103	70	130			
n-Pentane		1.04	Mol %	0.01	104	70	130			
Hexanes plus		0.82	Mol %	0.01	103	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Work Order Receipt Checklist

Hall Environmental

B23080297

Login completed by: Leslie S. Cadreau
Date Received: 8/2/2023
Reviewed by: gmccartney
Received by: yes
Reviewed Date: 8/4/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	23.4°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Energy Labs -Billings	COMPANY:	Energy Laboratories	PHONE: (406) 869-6253	FAX: (406) 252-6069
ADDRESS:	1120 South 27th Street			ACCOUNT #:	EMAIL:
CITY, STATE, ZIP:	Billings, MT 59107				

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2307D96-001B	Hare #14M Influent	TEDLAR	Air	7/27/2023 11:35:00 AM	1	**5 DAY TAT** Natural Gas Analysis- CO2 +02

B23080297

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 7/28/2023	Time: 8:59 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/2/23	Time: 0925

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ___ °C Attempt to Cool ? ___
Comments: ___

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D96**

10-Aug-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2307D96-001adup** SampType: **DUP** TestCode: **EPA Method 8260B: Volatiles**

Client ID: **Hare #14M Influent** Batch ID: **R98656** RunNo: **98656**

Prep Date: Analysis Date: **8/2/2023** SeqNo: **3593823** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	5.0						0	20	
Toluene	61	5.0						0.681	20	
Ethylbenzene	5.7	5.0						0.177	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	ND	5.0						0	20	
1,3,5-Trimethylbenzene	ND	5.0						0	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D96**

10-Aug-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2307D96-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Hare #14M Influent**	Batch ID: **R98656**	RunNo: **98656**
Prep Date:	Analysis Date: **8/2/2023**	SeqNo: **3593823** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	72	7.5						1.55	20	
Surr: Dibromofluoromethane	56		50.00		112	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	55		50.00		110	70	130	0	0	
Surr: Toluene-d8	64		50.00		128	70	130	0	0	
Surr: 4-Bromofluorobenzene	64		50.00		129	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2307D96**

10-Aug-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2307D96-001adup**	SampType: **DUP**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Hare #14M Influent**	Batch ID: **R98656**	RunNo: **98656**
Prep Date:	Analysis Date: **8/2/2023**	SeqNo: **3597811** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2700	250						0.743	20	
Surr: BFB	46000		50000		92.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2307D96 RcptNo: 1

Received By: **Tracy Casarrubias** 7/28/2023 7:00:00 AM

Completed By: **Tracy Casarrubias** 7/28/2023 8:53:03 AM

Reviewed By: JR 7-28-23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: JR 7/28/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number, and Email/Fax are missing on COC- TMC 7/28/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp / Kate Kaufman
kkaufman@hilcorp.com
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5-day
☑ Standard ☐ Rush
Project Name: Hare #14M
Project #:
Project Manager: Stuart Hyde
shyde@ensolum.com
Sampler: Zach Myers
On Ice: ☐ Yes ☑ No
# of Coolers: 1
Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2307D96	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) full list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed gas O_2 CO_2
7/27/23	11:35	Air	Hare #14M Influent	2x tedlar	—	001		✓						✓			✓

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
7/27/23	14:45				7/27/23	1443
7/27/23	1810			courier	7/28/23	7:00

Remarks: dburns
cc: dhencmann@ensolum.com
zmyers

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 25, 2023

Stuart Hyde
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14 M OrderNo.: 2308660

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/11/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308660**
Date Reported: **8/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent
Project: Hare 14 M
Collection Date: 8/9/2023 1:20:00 PM
Lab ID: 2308660-001 **Matrix:** AIR **Received Date:** 8/11/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Toluene	55	5.0		µg/L	50	8/14/2023 1:53:00 PM
Ethylbenzene	5.5	5.0		µg/L	50	8/14/2023 1:53:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Naphthalene	ND	10		µg/L	50	8/14/2023 1:53:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	8/14/2023 1:53:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	8/14/2023 1:53:00 PM
Acetone	ND	50		µg/L	50	8/14/2023 1:53:00 PM
Bromobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Bromoform	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Bromomethane	ND	10		µg/L	50	8/14/2023 1:53:00 PM
2-Butanone	ND	50		µg/L	50	8/14/2023 1:53:00 PM
Carbon disulfide	ND	50		µg/L	50	8/14/2023 1:53:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Chlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Chloroethane	ND	10		µg/L	50	8/14/2023 1:53:00 PM
Chloroform	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Chloromethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	8/14/2023 1:53:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Dibromomethane	ND	10		µg/L	50	8/14/2023 1:53:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2308660**
Date Reported: **8/25/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Influent
Project: Hare 14 M
Collection Date: 8/9/2023 1:20:00 PM
Lab ID: 2308660-001 **Matrix:** AIR **Received Date:** 8/11/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
2-Hexanone	ND	50		µg/L	50	8/14/2023 1:53:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	8/14/2023 1:53:00 PM
Methylene chloride	ND	15		µg/L	50	8/14/2023 1:53:00 PM
n-Butylbenzene	ND	15		µg/L	50	8/14/2023 1:53:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Styrene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	8/14/2023 1:53:00 PM
Vinyl chloride	ND	5.0		µg/L	50	8/14/2023 1:53:00 PM
Xylenes, Total	69	7.5		µg/L	50	8/14/2023 1:53:00 PM
Surr: Dibromofluoromethane	114	70-130		%Rec	50	8/14/2023 1:53:00 PM
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	50	8/14/2023 1:53:00 PM
Surr: Toluene-d8	122	70-130		%Rec	50	8/14/2023 1:53:00 PM
Surr: 4-Bromofluorobenzene	123	70-130		%Rec	50	8/14/2023 1:53:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2600	250		µg/L	50	8/14/2023 1:53:00 PM
Surr: BFB	88.3	70-130		%Rec	50	8/14/2023 1:53:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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ANALYTICAL SUMMARY REPORT

August 24, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23081528 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 8/15/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23081528-001	2308660-001B, Influent	08/09/23 13:20	08/15/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23081528-001
Client Sample ID: 2308660-001B, Influent

Report Date: 08/24/23
Collection Date: 08/09/23 13:20
DateReceived: 08/15/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.73	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Nitrogen	77.94	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Carbon Dioxide	0.23	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Hexanes plus	0.10	Mol %		0.01		GPA 2261-95	08/17/23 11:11 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
Hexanes plus	0.042	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
GPM Total	0.042	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
GPM Pentanes plus	0.042	gpm		0.001		GPA 2261-95	08/17/23 11:11 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	5			1		GPA 2261-95	08/17/23 11:11 / jrj
Net BTU per cu ft @ std cond. (LHV)	4			1		GPA 2261-95	08/17/23 11:11 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	08/17/23 11:11 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	08/17/23 11:11 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	08/17/23 11:11 / jrj
Air, %	99.29			0.01		GPA 2261-95	08/17/23 11:11 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	08/17/23 11:11 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23081528 **Report Date:** 08/24/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R407236
Lab ID: **B23081332-018ADUP**	12	Sample Duplicate				Run: GCNGA-B_230817A				08/17/23 10:08
Oxygen		14.2	Mol %	0.01				0.0	20	
Nitrogen		52.5	Mol %	0.01				0.2	20	
Carbon Dioxide		0.17	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		30.7	Mol %	0.01				0.3	20	
Ethane		1.51	Mol %	0.01				0.0	20	
Propane		0.37	Mol %	0.01				0.0	20	
Isobutane		0.14	Mol %	0.01				0.0	20	
n-Butane		0.22	Mol %	0.01				0.0	20	
Isopentane		0.08	Mol %	0.01				0.0	20	
n-Pentane		0.05	Mol %	0.01				0.0	20	
Hexanes plus		0.08	Mol %	0.01				13	20	
Lab ID: **LCS081723**	11	Laboratory Control Sample				Run: GCNGA-B_230817A				08/17/23 15:02
Oxygen		0.60	Mol %	0.01	120	70	130			
Nitrogen		6.04	Mol %	0.01	101	70	130			
Carbon Dioxide		0.99	Mol %	0.01	100	70	130			
Methane		74.2	Mol %	0.01	99	70	130			
Ethane		6.01	Mol %	0.01	100	70	130			
Propane		5.31	Mol %	0.01	108	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		2.01	Mol %	0.01	100	70	130			
Isopentane		1.01	Mol %	0.01	101	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.78	Mol %	0.01	98	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23081528

Login completed by: Leslie S. Cadreau
Date Received: 8/15/2023
Reviewed by: lleprowse
Received by: lel
Reviewed Date: 8/19/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	22.4°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR	**Energy Labs -Billings**	COMPANY:	**Energy Laboratories**	PHONE:	**(406) 869-6253**	FAX:	**(406) 252-6069**
ADDRESS:	**1120 South 27th Street**			ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP	**Billings, MT 59107**						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2308660-001B	Influent	TEDLAR	Air	8/9/2023 1:20:00 PM	1	Natural Gas Analysis - O2+ CO2

B23081528

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 8/11/2023	Time: 7:39 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Lyndi Lehome	Date: 8/15/23	Time: 09:20

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples °C Attempt to Cool ?

Comments:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2308660 RcptNo: 1

Received By: Tracy Casarrubias 8/11/2023 6:15:00 AM

Completed By: Tracy Casarrubias 8/11/2023 7:38:12 AM

Reviewed By: JA 8-11-23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 08/11/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address and phone number are missing on COC- TMC 8/11/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Attn: Kate Kaufman

Mailing Address:

Phone #:

email or Fax#: KKaufman@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Hanson

On Ice: ☐ Yes ☒ No

# of Coolers: 1

Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308b660	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	VOC's 8260B	TVPH 8015	Fixed Gas O_2 & CO_2			
8/9/23	13:20	Gas	Influent	2, Tedlar	—	001											X	X	X			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/10	15:05				8/10/23	1505
8/10/23	1804			courier	8/11/23	6:15

Remarks: cc: shyde@ensolum.com, rhanson

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 06, 2023

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14 M OrderNo.: 2308E04

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/25/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2308E04**
Date Reported: **9/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14 M
Collection Date: 8/24/2023 2:05:00 PM
Lab ID: 2308E04-001 **Matrix:** AIR
Received Date: 8/25/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Toluene	53	5.0		µg/L	50	8/30/2023 3:24:00 PM
Ethylbenzene	7.5	5.0		µg/L	50	8/30/2023 3:24:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2,4-Trimethylbenzene	5.7	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,3,5-Trimethylbenzene	6.2	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Naphthalene	ND	10		µg/L	50	8/30/2023 3:24:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	8/30/2023 3:24:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	8/30/2023 3:24:00 PM
Acetone	ND	50		µg/L	50	8/30/2023 3:24:00 PM
Bromobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Bromoform	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Bromomethane	ND	10		µg/L	50	8/30/2023 3:24:00 PM
2-Butanone	ND	50		µg/L	50	8/30/2023 3:24:00 PM
Carbon disulfide	ND	50		µg/L	50	8/30/2023 3:24:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Chlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Chloroethane	ND	10		µg/L	50	8/30/2023 3:24:00 PM
Chloroform	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Chloromethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	8/30/2023 3:24:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Dibromomethane	ND	10		µg/L	50	8/30/2023 3:24:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2308E04**
Date Reported: **9/6/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14 M
Collection Date: 8/24/2023 2:05:00 PM
Lab ID: 2308E04-001 **Matrix:** AIR **Received Date:** 8/25/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
2-Hexanone	ND	50		µg/L	50	8/30/2023 3:24:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	8/30/2023 3:24:00 PM
Methylene chloride	ND	15		µg/L	50	8/30/2023 3:24:00 PM
n-Butylbenzene	ND	15		µg/L	50	8/30/2023 3:24:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Styrene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	8/30/2023 3:24:00 PM
Vinyl chloride	ND	5.0		µg/L	50	8/30/2023 3:24:00 PM
Xylenes, Total	99	7.5		µg/L	50	8/30/2023 3:24:00 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	50	8/30/2023 3:24:00 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	50	8/30/2023 3:24:00 PM
Surr: Toluene-d8	116	70-130		%Rec	50	8/30/2023 3:24:00 PM
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	50	8/30/2023 3:24:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2700	250		µg/L	50	8/30/2023 3:24:00 PM
Surr: BFB	95.0	70-130		%Rec	50	8/30/2023 3:24:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

September 06, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23082664 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 8/29/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23082664-001	2308E04-001B, Hare 14M Influent	08/24/23 14:05	08/29/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23082664-001
Client Sample ID: 2308E04-001B, Hare 14M Influent

Report Date: 09/06/23
Collection Date: 08/24/23 14:05
DateReceived: 08/29/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.66	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Nitrogen	77.96	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Carbon Dioxide	0.24	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Methane	0.02	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Hexanes plus	0.12	Mol %		0.01		GPA 2261-95	08/30/23 10:11 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
Hexanes plus	0.051	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
GPM Total	0.051	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
GPM Pentanes plus	0.051	gpm		0.001		GPA 2261-95	08/30/23 10:11 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	6			1		GPA 2261-95	08/30/23 10:11 / jrj
Net BTU per cu ft @ std cond. (LHV)	5			1		GPA 2261-95	08/30/23 10:11 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	08/30/23 10:11 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	08/30/23 10:11 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	08/30/23 10:11 / jrj
Air, %	98.98			0.01		GPA 2261-95	08/30/23 10:11 / jrj
- The analysis was not corrected for air.							

COMMENTS

-						-	08/30/23 10:11 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23082664 **Report Date:** 09/06/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95										Batch: R408000
Lab ID: B23082662-001ADUP	12	Sample Duplicate				Run: GCNGA-B_230830A				08/30/23 09:44
Oxygen		21.4	Mol %	0.01				0.1	20	
Nitrogen		77.4	Mol %	0.01				0.1	20	
Carbon Dioxide		0.54	Mol %	0.01				1.8	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.66	Mol %	0.01				11	20	
Lab ID: LCS083023	11	Laboratory Control Sample				Run: GCNGA-B_230830A				08/30/23 12:42
Oxygen		0.62	Mol %	0.01	124	70	130			
Nitrogen		6.05	Mol %	0.01	101	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.2	Mol %	0.01	99	70	130			
Ethane		6.02	Mol %	0.01	100	70	130			
Propane		5.37	Mol %	0.01	109	70	130			
Isobutane		1.99	Mol %	0.01	99	70	130			
n-Butane		2.01	Mol %	0.01	100	70	130			
Isopentane		1.00	Mol %	0.01	100	70	130			
n-Pentane		1.00	Mol %	0.01	100	70	130			
Hexanes plus		0.76	Mol %	0.01	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23082664

Login completed by: Lyndsi E. LeProwse
Date Received: 8/29/2023
Reviewed by: darcy
Received by: dnh
Reviewed Date: 8/30/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	24.2°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Energy Labs -Billings	COMPANY:	Energy Laboratories	PHONE:	(406) 869-6253	FAX:	(406) 252-6069
ADDRESS:	1120 South 27th Street			ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP:	Billings, MT 59107						

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2308E04-001B	Hare 14M Influent	TEDLAR	Air	8/24/2023 2:05:00 PM	1	**5 DAY TAT** Natural Gas Analysis. 02+CO2 B23082464

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 8/25/2023	Time: 8:10 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 8/29/23	Time: 10:00

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY
Temp of samples ℃ Attempt to Cool.?
Comments:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2308E04 RcptNo: 1

Received By: Juan Rojas 8/25/2023 7:10:00 AM

Completed By: Tracy Casarrubias 8/25/2023 8:08:14 AM

Reviewed By: 8.25.23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☐	No ☑	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 8/25/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions: Mailing address,phone number, and Email/Fax are missing on COC- TMC 8/25/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp - Kate Kaufmann

kkaufmann@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day

☑ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers 8/25/23

On Ice: ~~☐ Yes~~ ~~☐ No~~

# of Coolers: 1

Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2308E04	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO) DRO / MRO	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) full list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed gas O_2 CO_2
8/24/23	14:05	air	Hare 14M Influent	2x tedlar	—	001		✓						✓			✓

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
8/24/23	15:10				8/24/23	1510
8/24/23	1750	Christian Wade		courier	8/25/23	7:10

Remarks: dburns

cc: dhencmann@ensolum.com

zmyers

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 28, 2023

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14M OrderNo.: 2309463

Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/9/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309463**
Date Reported: **9/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14M
Collection Date: 9/8/2023 11:20:00 AM
Lab ID: 2309463-001 **Matrix:** AIR **Received Date:** 9/9/2023 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Toluene	37	5.0		µg/L	50	9/14/2023 1:28:00 PM
Ethylbenzene	5.6	5.0		µg/L	50	9/14/2023 1:28:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Naphthalene	ND	10		µg/L	50	9/14/2023 1:28:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	9/14/2023 1:28:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	9/14/2023 1:28:00 PM
Acetone	ND	50		µg/L	50	9/14/2023 1:28:00 PM
Bromobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Bromoform	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Bromomethane	ND	10		µg/L	50	9/14/2023 1:28:00 PM
2-Butanone	ND	50		µg/L	50	9/14/2023 1:28:00 PM
Carbon disulfide	ND	50		µg/L	50	9/14/2023 1:28:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Chlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Chloroethane	ND	10		µg/L	50	9/14/2023 1:28:00 PM
Chloroform	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Chloromethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	9/14/2023 1:28:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Dibromomethane	ND	10		µg/L	50	9/14/2023 1:28:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309463**
Date Reported: **9/28/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14M
Collection Date: 9/8/2023 11:20:00 AM
Lab ID: 2309463-001 **Matrix:** AIR
Received Date: 9/9/2023 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
2-Hexanone	ND	50		µg/L	50	9/14/2023 1:28:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	9/14/2023 1:28:00 PM
Methylene chloride	ND	15		µg/L	50	9/14/2023 1:28:00 PM
n-Butylbenzene	ND	15		µg/L	50	9/14/2023 1:28:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Styrene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	9/14/2023 1:28:00 PM
Vinyl chloride	ND	5.0		µg/L	50	9/14/2023 1:28:00 PM
Xylenes, Total	74	7.5		µg/L	50	9/14/2023 1:28:00 PM
Surr: Dibromofluoromethane	89.5	70-130		%Rec	50	9/14/2023 1:28:00 PM
Surr: 1,2-Dichloroethane-d4	84.0	70-130		%Rec	50	9/14/2023 1:28:00 PM
Surr: Toluene-d8	107	70-130		%Rec	50	9/14/2023 1:28:00 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	50	9/14/2023 1:28:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2100	250		µg/L	50	9/14/2023 1:28:00 PM
Surr: BFB	87.6	70-130		%Rec	50	9/14/2023 1:28:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

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ANALYTICAL SUMMARY REPORT

September 28, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23090881 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 9/12/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23090881-001	2309463-001B, Hare 14M Influent	09/08/23 11:20	09/12/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23090881-001
Client Sample ID: 2309463-001B, Hare 14M Influent

Report Date: 09/28/23
Collection Date: 09/08/23 11:20
DateReceived: 09/12/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.72	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Nitrogen	78.08	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Carbon Dioxide	0.20	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Hexanes plus	<0.01	Mol %		0.01		GPA 2261-95	09/13/23 10:51 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
Hexanes plus	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
GPM Total	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
GPM Pentanes plus	< 0.001	gpm		0.001		GPA 2261-95	09/13/23 10:51 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	ND			1		GPA 2261-95	09/13/23 10:51 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND			1		GPA 2261-95	09/13/23 10:51 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	09/13/23 10:51 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	09/13/23 10:51 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	09/13/23 10:51 / jrj
Air, %	99.24			0.01		GPA 2261-95	09/13/23 10:51 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	09/13/23 10:51 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23090881 **Report Date:** 09/28/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R408732
Lab ID: **B23090881-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230913A				09/13/23 11:18
Oxygen		21.7	Mol %	0.01				0.1	20	
Nitrogen		78.1	Mol %	0.01				0	20	
Carbon Dioxide		0.20	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		<0.01	Mol %	0.01					20	
Lab ID: **LCS091323**	11	Laboratory Control Sample				Run: GCNGA-B_230913A				09/13/23 15:06
Oxygen		0.59	Mol %	0.01	118	70	130			
Nitrogen		5.89	Mol %	0.01	98	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.4	Mol %	0.01	100	70	130			
Ethane		6.02	Mol %	0.01	100	70	130			
Propane		5.23	Mol %	0.01	106	70	130			
Isobutane		2.00	Mol %	0.01	100	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		0.99	Mol %	0.01	99	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.84	Mol %	0.01	105	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23090881

Login completed by: Leslie S. Cadreau
Date Received: 9/12/2023
Reviewed by: gmccartney
Received by: lel
Reviewed Date: 9/16/2023
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	18.6°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR:	Energy Labs -Billings	COMPANY: Energy Laboratories	PHONE: (406) 869-6253 FAX: (406) 252-6069
ADDRESS:	1120 South 27th Street		ACCOUNT #: EMAIL:
CITY, STATE, ZIP:	Billings, MT 59107		

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2309463-001B	Hare 14M Influent	TEDLAR	Air	9/8/2023 11:20:00 AM	1	Natural Gas Analysis- 02+C02 B23090881

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: CMC	Date: 9/9/2023	Time: 10:24 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Lyndsay Lefranc	Date: 09/12/23	Time: 09:05

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples _____ °C Attempt to Cool ? _____
Comments: _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309463**

28-Sep-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2309463-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Hare 14M Influent**	Batch ID: **R99694**	RunNo: **99694**
Prep Date:	Analysis Date: **9/14/2023**	SeqNo: **3643434** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	5.0						0	20	
Toluene	38	5.0						4.31	20	
Ethylbenzene	5.7	5.0						2.65	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	ND	5.0						0	20	
1,3,5-Trimethylbenzene	ND	5.0						0	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309463**

28-Sep-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2309463-001adup**	SampType: **DUP**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Hare 14M Influent**	Batch ID: **R99694**	RunNo: **99694**
Prep Date:	Analysis Date: **9/14/2023**	SeqNo: **3643434** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	77	7.5						4.98	20	
Surr: Dibromofluoromethane	43		50.00		86.6	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	42		50.00		84.4	70	130	0	0	
Surr: Toluene-d8	54		50.00		108	70	130	0	0	
Surr: 4-Bromofluorobenzene	54		50.00		109	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309463**

28-Sep-23

Client: HILCORP ENERGY

Project: Hare 14M

Sample ID: **2309463-001adup**	SampType: **DUP**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Hare 14M Influent**	Batch ID: **G99694**	RunNo: **99694**
Prep Date:	Analysis Date: **9/14/2023**	SeqNo: **3643562** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2200	250						5.23	20	
Surr: BFB	44000		50000		88.0	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2309463 RcptNo: 1

Received By: Cheyenne Cason 9/9/2023 9:30:00 AM

Completed By: Cheyenne Cason 9/9/2023 10:20:41 AM

Reviewed By: JH 9/11/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: LMC 9/9/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes	NA		

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

email or Fax#: MKilough@hilcorp.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde - Ensolum

Sampler: E. Carroll

On Ice: ☒ Yes ☐ No Yog

# of Coolers: 0 N/A

Cooler Temp (Including CF): ~~2.6-0.2=2.4~~ (°C) cmc 9/9/23

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309463	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas O_2, CO_2
9-8	11:20	Air	Hare 14M Influent	2 Tedlar		001		X						X			X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
9-8	14:15				9/8/23	1445
9/8/23	1807		cmc	courier	9/9/23	0930

Remarks:
cc: dburns@hilcorp.com
ecarroll@ensolum.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 03, 2023

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hare 14M OrderNo.: 2309D08

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/23/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2309D08**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14M
Collection Date: 9/21/2023 1:35:00 PM
Lab ID: 2309D08-001 **Matrix:** AIR
Received Date: 9/23/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
Benzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Toluene	39	5.0		µg/L	50	9/25/2023 2:49:00 PM
Ethylbenzene	6.6	5.0		µg/L	50	9/25/2023 2:49:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2,4-Trimethylbenzene	5.8	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,3,5-Trimethylbenzene	6.2	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Naphthalene	ND	10		µg/L	50	9/25/2023 2:49:00 PM
1-Methylnaphthalene	ND	20		µg/L	50	9/25/2023 2:49:00 PM
2-Methylnaphthalene	ND	20		µg/L	50	9/25/2023 2:49:00 PM
Acetone	ND	50		µg/L	50	9/25/2023 2:49:00 PM
Bromobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Bromodichloromethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Bromoform	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Bromomethane	ND	10		µg/L	50	9/25/2023 2:49:00 PM
2-Butanone	ND	50		µg/L	50	9/25/2023 2:49:00 PM
Carbon disulfide	ND	50		µg/L	50	9/25/2023 2:49:00 PM
Carbon tetrachloride	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Chlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Chloroethane	ND	10		µg/L	50	9/25/2023 2:49:00 PM
Chloroform	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Chloromethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
2-Chlorotoluene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
4-Chlorotoluene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
cis-1,2-DCE	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	9/25/2023 2:49:00 PM
Dibromochloromethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Dibromomethane	ND	10		µg/L	50	9/25/2023 2:49:00 PM
1,2-Dichlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,3-Dichlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,4-Dichlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Dichlorodifluoromethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1-Dichloroethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1-Dichloroethene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2-Dichloropropane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,3-Dichloropropane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
2,2-Dichloropropane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2309D08**
Date Reported: **10/3/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: Hare 14M Influent
Project: Hare 14M
Collection Date: 9/21/2023 1:35:00 PM
Lab ID: 2309D08-001 **Matrix:** AIR
Received Date: 9/23/2023 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**
1,1-Dichloropropene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Hexachlorobutadiene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
2-Hexanone	ND	50		µg/L	50	9/25/2023 2:49:00 PM
Isopropylbenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
4-Isopropyltoluene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
4-Methyl-2-pentanone	ND	50		µg/L	50	9/25/2023 2:49:00 PM
Methylene chloride	ND	15		µg/L	50	9/25/2023 2:49:00 PM
n-Butylbenzene	ND	15		µg/L	50	9/25/2023 2:49:00 PM
n-Propylbenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
sec-Butylbenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Styrene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
tert-Butylbenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
trans-1,2-DCE	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1,1-Trichloroethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,1,2-Trichloroethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Trichloroethene (TCE)	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Trichlorofluoromethane	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
1,2,3-Trichloropropane	ND	10		µg/L	50	9/25/2023 2:49:00 PM
Vinyl chloride	ND	5.0		µg/L	50	9/25/2023 2:49:00 PM
Xylenes, Total	96	7.5		µg/L	50	9/25/2023 2:49:00 PM
Surr: Dibromofluoromethane	96.8	70-130		%Rec	50	9/25/2023 2:49:00 PM
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%Rec	50	9/25/2023 2:49:00 PM
Surr: Toluene-d8	108	70-130		%Rec	50	9/25/2023 2:49:00 PM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	50	9/25/2023 2:49:00 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	2300	250		µg/L	50	9/25/2023 2:49:00 PM
Surr: BFB	87.2	70-130		%Rec	50	9/25/2023 2:49:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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ANALYTICAL SUMMARY REPORT

October 02, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23092177 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 9/26/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23092177-001	2309D08-001B, Hare 14M Influent	09/21/23 13:35	09/26/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23092177-001
Client Sample ID: 2309D08-001B, Hare 14M Influent

Report Date: 10/02/23
Collection Date: 09/21/23 13:35
DateReceived: 09/26/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.75	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Nitrogen	78.00	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Carbon Dioxide	0.18	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Hexanes plus	0.07	Mol %		0.01		GPA 2261-95	09/27/23 11:18 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
Hexanes plus	0.029	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
GPM Total	0.029	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
GPM Pentanes plus	0.029	gpm		0.001		GPA 2261-95	09/27/23 11:18 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	3			1		GPA 2261-95	09/27/23 11:18 / jrj
Net BTU per cu ft @ std cond. (LHV)	3			1		GPA 2261-95	09/27/23 11:18 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	09/27/23 11:18 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	09/27/23 11:18 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	09/27/23 11:18 / jrj
Air, %	99.36			0.01		GPA 2261-95	09/27/23 11:18 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-						-	09/27/23 11:18 / jrj

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** B23092177 **Report Date:** 10/02/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**										Batch: R409565
Lab ID: **B23092155-001ADUP**	12	Sample Duplicate				Run: GCNGA-B_230927A				09/27/23 09:43
Oxygen		21.9	Mol %	0.01				0	20	
Nitrogen		78.1	Mol %	0.01				0	20	
Carbon Dioxide		0.05	Mol %	0.01				0.0	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		<0.01	Mol %	0.01					20	
Lab ID: **LCS092723**	11	Laboratory Control Sample				Run: GCNGA-B_230927A				09/27/23 15:27
Oxygen		0.62	Mol %	0.01	124	70	130			
Nitrogen		6.02	Mol %	0.01	100	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.3	Mol %	0.01	99	70	130			
Ethane		6.04	Mol %	0.01	101	70	130			
Propane		5.35	Mol %	0.01	108	70	130			
Isobutane		1.98	Mol %	0.01	99	70	130			
n-Butane		1.98	Mol %	0.01	99	70	130			
Isopentane		1.02	Mol %	0.01	102	70	130			
n-Pentane		1.00	Mol %	0.01	100	70	130			
Hexanes plus		0.73	Mol %	0.01	91	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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Work Order Receipt Checklist

Hall Environmental

B23092177

Login completed by:	Addison A. Gilbert	Date Received:	9/26/2023
Reviewed by:	gmccartney	Received by:	dnh
Reviewed Date:	9/27/2023	Carrier name:	FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	17.4°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR: **Energy Labs -Billings**	COMPANY: **Energy Laboratories**	PHONE: **(406) 869-6253**	FAX: **(406) 252-6069**
ADDRESS: **1120 South 27th Street**		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: **Billings, MT 59107**			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2309D08-001B	Hare 14M Influent	TEDLAR	Air	9/21/2023 1:35:00 PM	1	Natural Gas analysis *5 Day TAT*

~~B2309 2155~~
B2309 2177 AG 26 Sep 23

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 9/25/2023	Time: 9:17 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 9/26/23	Time: 0820

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples _____ °C Attempt to Cool ? _____
Comments: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2309D08 RcptNo: 1

Received By: Juan Rojas 9/23/2023 7:00:00 AM

Completed By: Cheyenne Cason 9/25/2023 9:08:28 AM

Reviewed By: SCM 9/25/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Client		

Log In

3. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no. notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: JM 9/25/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes	NA		

Chain-of-Custody Record

Client: Hilcorp - Kate Kaufmann

kkaufmann@hilcorp.com

Mailing Address:

Phone #:

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-day

☑ Standard ☐ Rush

Project Name: Hare 14M

Project #:

Project Manager: Stuart Hyde

shyde@ensolum.com

Sampler: Zach Myers

On Ice: ☐ Yes ~~☐ No~~

# of Coolers: 1

Cooler Temp(including CF): NA (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2309008	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO) DRO / MRO	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA) Full list	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed gas O_2, CO_2
9/21/23	1335	air	Hare 14M Influent	2x tedlar	-	001		✓						✓			✓

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/22/23	1505			courier	9/23/23	7:00
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: dburns

cc: dhencmann@ensolum.com

Zmyers

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

ENSOLUM

APPENDIX D

NMOCD Correspondence

From: Velez, Nelson, EMNRD
To: Stuart Hyde
Cc: Kate Kaufman; Matt Henderson; Devin Hencmann
Subject: Re: [EXTERNAL] Hare 14M and Howell M#1 Quarterly Reports
Date: Wednesday, July 5, 2023 7:51:15 AM
Attachments: image001.png
image002.png
image003.png
image004.png
Outlook-qf0i1snp.png

[**EXTERNAL EMAIL**]
Good morning Stuart,

Thanks for the correspondence. Hilcorp can submit the first quarterly report summarizing both Q2 and Q3 activities (due October 15, 2023).

Hilcorp must submit quarterly reports similar to the current active SVE sites, no later than the 15th in April (1Q), July (2Q), October (3Q), and January (4Q).

Please keep a copy of this communication for inclusion within the appropriate report submittal. Thanks again.

Regards,

Nelson Velez ● Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Stuart Hyde <shyde@ensolum.com>
Sent: Monday, July 3, 2023 12:05 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Cc: Kate Kaufman <kkaufman@hilcorp.com>; Matt Henderson <mhenderson@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>
Subject: [EXTERNAL] Hare 14M and Howell M#1 Quarterly Reports

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

Two things I wanted to clarify regarding the quarterly reports for the Hare 14M and Howell M#1 sites.

1. Both systems were started at the beginning of June and we only have a few data points for the second quarter 2023. Can we submit the first quarterly report summarizing both Q2 and Q3 activities? Or should we prepare a Q2 2023 report for the June data?
2. I did not see due dates associated with the quarterly reports in the conditions of approval. When are the quarterly reports due after the end of the subject quarter?

Thanks and happy 4th!

Stuart Hyde, LG
Senior Geologist
970-903-1607
Ensolum, LLC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 275358

CONDITIONS

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 275358
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. Please see App ID 333277 for most updated status.	7/3/2024